

S Project F 1-
388.1 2(39) 138,
T6-92-02 reconstruction of
F 1995 U.S. Highway 2
V.1 between Columbia
Heights and Hungry
Horse, Flathead

Final Section 4(f) Evaluation
Final Environmental Impact Statement

Project F 1-2 (39) 138
Reconstruction of U.S. Highway 2 between
Columbia Heights and Hungry Horse
Flathead County, Montana

State of Montana - Department of Transportation
and
U.S. Department of Transportation - Federal Highway Administration



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**Project F 1-2 (39) 138
Reconstruction of U.S. Highway 2 between
Columbia Heights and Hungry Horse
Flathead County, Montana**

**FINAL ENVIRONMENTAL IMPACT STATEMENT
FINAL SECTION 4(f) EVALUATION**

prepared by

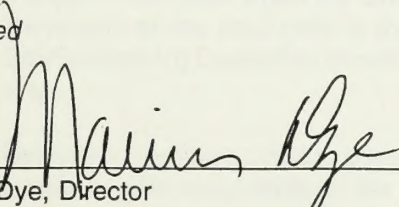
STATE OF MONTANA
DEPARTMENT OF TRANSPORTATION
AND
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

in cooperation with

U.S. DEPARTMENT OF THE ARMY CORPS OF ENGINEERS
U.S. DEPARTMENT OF AGRICULTURE-FOREST SERVICE,
FLATHEAD NATIONAL FOREST
U.S. DEPARTMENT OF THE INTERIOR-NATIONAL PARK SERVICE,
GLACIER NATIONAL PARK

Submitted pursuant to 42 U.S.C. 4332 (2) (c), 23 U.S.C. 138 and 49 U.S.C. 303. This action complies with Executive Order 11990, "Protection of Wetlands," Executive Order 11988, "Floodplain Management," and Sections 2-3-104 and 75-1-101, M.C.A.

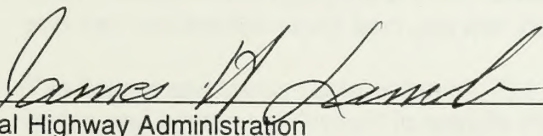
Approved



Marvin Dye, Director
Montana Department of Transportation

Date: _____

2/15/95



Federal Highway Administration

Date: _____

3/15/95

Abstract of the EIS

This Environmental Impact Statement addresses the impacts of reconstructing U.S. Highway 2 between Columbia Heights and Hungry Horse in Flathead County, Montana. Project F 1-2 (39) 138 proposes to rebuild the intersection of US 2 and Federal-Aid Secondary Route 206, widen 4.4 miles of narrow two-lane highway, and replace the existing bridge over the South Fork of the Flathead River. The proposed action is necessary because the existing facility is worn out and warrants traffic safety and capacity improvements. Alternatives considered for this proposed action include (1) taking no action; (2) providing a wider two-lane highway; or (3) replacing the existing highway with a four-lane road. Measures to minimize or mitigate the impacts of the proposed action are also identified.

Based on the evaluations contained in this document, replacing the existing highway with a four-lane road has been selected as the preferred alternative for this proposed action. The preferred alternative would provide four travel lanes and a center median/left turn lane from the project's beginning in Columbia Heights to Berne Road, west of Badrock Canyon. The center median/left turn lane would be eliminated between Berne Road and Hungry Horse.

Additional Information

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Comments

Comments on this Final Environmental Impact Statement/Section 4(f) Evaluation are due by JUN 01 1995 and should be sent to Mr. Carl S. Peil at the above address.

Preface

Modifications have been made to this document in direct response to both agency and public comments on the Draft EIS/Section 4(f) Evaluation. To help readers identify these modifications, **boldface type** has been used throughout the Final EIS/Section 4(f) Evaluation to highlight text changes, the addition of new materials, and other revisions. Major modifications made after the publication of the Draft EIS are briefly discussed below.

- Materials were added to Part II to further discuss the potential for using alternate routes and for developing a tunnel through Badrock Canyon. Design modifications to the proposed highway through Badrock Canyon were also investigated in an effort to reduce impacts on the Flathead River and its riparian area. Various measures including the use of steepened slopes, retaining walls, and cantilever or bridge structures were examined for use in areas adjacent to the Flathead River. As a result, the preferred alternative was modified to include a vertical retaining wall for some 2,100 feet along the Flathead River instead of the riprap-faced embankment proposed in the Draft EIS. Other parts of the document were revised to reflect the impacts of this design modification for the preferred alternative in Badrock Canyon.
 - Wetlands in the project area were reevaluated according to the Wetland Evaluation Technique (WET) which helped identify the specific functions and values provided by each site. The Final EIS shows the amounts of wetlands affected by the proposed action, describes the extent of the impact at each affected wetland, and offers proposals for enhancing or replacing wetlands within the general project area.
 - The results of analyses to identify the PM-10 emissions that may be generated by construction activities and normal traffic on US 2 are now included in Part IV. These analyses were done to determine if emissions from the proposed action would cause additional violations of PM-10 air quality standards in the Columbia Falls PM-10 nonattainment area.
 - Parts III and IV offer new information about geologic conditions in Badrock Canyon based on a geotechnical study of the west outcrop at Berne Memorial Park completed in October, 1994. The feasibility of excavating the outcrop, recommendations for the design of the rock cut, and measures to minimize rock fall from the excavated area are discussed in the Final EIS.
 - Parts IV and V present the results of a cultural resource study of the Badrock Canyon "Tote" Road, a supply road used when the Great Northern Railroad was constructed through the project area. Remnants of the road exist in the outcrops above Berne Memorial Park. New text in the Final EIS/Section 4(f) Evaluation describes the impacts of the proposed road construction on this historic road.
 - Revisions were also made to parts of the document because new and relevant information became available after publication of the Draft EIS and because some materials in the Draft EIS were outdated. The document was revised to include more recent traffic volume data for the corridor; 1990 Census data for the project area; current unit cost information for highway construction items; and new information about land use and local land use planning efforts.
 - The figures and tables contained in the EIS are numbered differently than in the Draft EIS so that tables and figures are "keyed" to specific Parts of the Final EIS/Section 4(f) Evaluation.
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- Several digital photographic simulations have been provided to help readers better understand the impacts of the proposed action and to illustrate the likely appearance of the project corridor with the development of the preferred alternative. These simulations appear in Parts II, IV, and V.
- Part VI has been expanded to include comments on the Draft EIS/Section (4) Evaluation received from reviewing agencies and the public. Responses to both oral and written comments are provided where appropriate. A copy of the public hearing transcript can be found in this Part.
- Efforts were made throughout the document to make computer-generated preliminary design drawings and graphics more easily understood. In some instances, graphics based on aerial photographs were used instead of drawings to better illustrate the impacts of the proposed action.
- APPENDIX 13 identifies Best Management Practices (BMPs) for erosion control that were determined through a preliminary analysis using the **Highway Construction Standard Erosion Control Work Plan**. The appendix lists measures that may be appropriate for use in the project corridor during and immediately after construction of the new highway.
- APPENDIX 14 contains a Draft Section 404(b)(1) Evaluation which assesses the project's impacts on water quality and the aquatic ecosystem. This document provides much of the detailed information necessary to obtain a Section 404 permit for the proposed action. The text of Part IV has also been modified to elaborate on water quality impacts due to highway construction including the impacts that blasting associated with rock excavation may have on water quality. APPENDIX 5 has been expanded to include more extensive discussions of existing water quality and the aquatic ecosystem in the project area.

Notable Changes in the Project Area

Some aspects of the existing environment in the Columbia Heights-Hungry Horse area have changed and new information about the area became available since the circulation of the Draft EIS/Section 4(f) Evaluation. The following section briefly identifies notable changes in conditions and presents relevant new information on the project area.

Traffic Volumes and Level of Service. New traffic data for the project area became available after the publication of the Draft EIS. The data showed that the 1992 annual average daily traffic (AADT) at Station A-60 was 5,720, an increase of 11.8% over the 1991 AADT. Traffic volume increases were recorded for other count locations on US 2 in the project area.

During 1993, the AADT volume within the project corridor was 5,881. This traffic volume was 2.8% higher than the corresponding volume for 1992. Daily traffic volumes during July and August of 1993 averaged more than 10,600 vehicles per day. The AADT volume for 1993 was 23% higher than the AADT in 1989 when detailed planning and work on this project began.

Checks were made to determine if the use of more recent traffic data for the project corridor would change the results of the LOS analyses presented in the Draft EIS. The LOS analyses performed with newer traffic data reaffirmed the results and conclusions of the analyses in the EIS since traffic volumes in the corridor have continued to increase.

Accident History for the Corridor. The accident data presented in the Draft EIS was based on a study of accidents which occurred during the 1987 through 1990 period. Accident information for the 1991 through 1993 period was reviewed to determine if accident trends and rates in the project corridor have substantially changed since the four-year period examined in the Draft EIS.

Based on an analysis of the corridor's recent accident history, it was determined that:

- a total of 70 accidents occurred during the 1991-1993 period including 33 accidents occurred in 1991, 20 accidents occurred in 1992, and 17 accidents occurred in 1993.
- accidents in the project area included 1 fatal accident, 29 injury accidents, and 40 property damage only accidents.
- the overall accident rate for the 1991-1993 period was 2.61 accidents per million vehicle miles of travel (ACC/MVMT) which is less than the overall accident rate of 3.67 ACC/MVMT calculated for the 1987-1990 period.
- the accident rate for the months of November through March during the three-year study period was 4.82 ACC/MVMT as compared to the corresponding rate of 6.46 ACC/MVMT for the 1987-1990 period.
- the accident rate for the months of April through October during the three-year study period was 1.88 ACC/MVMT as compared to the corresponding rate of 3.16 ACC/MVMT for the 1987-1990 period.
- the accident rate for the section of US 2 near Berne Memorial Park (MP 140.5 to 141.2) was 2.34 ACC/MVMT as compared to 4.74 ACC/MVMT for the 1987-1990 period.
- the accident rate for the South Fork bridge area (MP 142.0 to 142.6) was 2.18 ACC/MVMT as compared to 6.00 ACC/MVMT for the 1987-1990 period.
- the types of accidents, locations of accidents within the corridor, and the factors contributing to motor vehicle accidents in the project area are similar for the 1991-1993 and the 1987-1990 periods.

Land Use in the Project Corridor. No substantial changes in land uses have occurred in the project corridor since the circulation of the Draft EIS.

Land Use Planning. New land use planning initiatives were undertaken in Flathead County since the publication of the Draft EIS. A land use plan for lands adjacent to US 2 between Badrock Canyon and Marias Pass was produced as a result of efforts by the Canyon Citizens Initiated Zoning Group. The group secured funding and other assistance from several agencies and hired a consulting land use planner to prepare a land use management plan. **The Canyon Plan** was adopted as an amendment to Flathead County's Master Plan in May, 1994.

The Flathead County Commissioners adopted a resolution of intent to implement land use regulations for the area covered by **The Canyon Plan** in November, 1994. The regulations, known as performance standards, differ from traditional zoning by allowing a wider range of land uses in different areas. However, the regulations impose development requirements to make new uses less intrusive and more compatible with existing land uses. Landowners in the Hungry Horse, Coram, and Martin City areas rejected the proposed land use rules in December, 1994. As a result, lands in the Badrock Canyon section of the project area remain unzoned. The new regulations were adopted for lands along US 2 between West Glacier and Marias Pass.

Flathead County is currently revising its county land use plan. In 1992, several community organizations offered to help the Flathead Regional Development Office facilitate community discussions and educational programs on growth in the county. At the suggestion of the Flathead Regional Development Office, representatives of these various groups ultimately came together and formed the Cooperative Planning

Coalition (CPC). The CPC led the planning effort and raised nearly \$600,000 in private funds to develop and implement a land use plan for the county. After extensive public involvement and work on the updated plan, meetings on the Draft Plan were held in the summer and fall of 1994. In December of 1994, the Flathead County Commissioners voted to approve the revised master plan and to hold a public vote on the plan as part of the June 1996 primary election.

Flathead Multi-Objective River Corridor (MORC) Plan. The National Park Service is helping eight agencies with management responsibilities for the Flathead River corridor develop the Flathead Multi-Objective River Corridor (MORC) Plan. The Plan covers the Flathead River corridor from the confluence of the South Fork near Hungry Horse to the north shore of Flathead Lake. The goal of the Flathead MORC Plan is to identify current and potential management concerns for the river corridor and recommend solutions. The Plan could ultimately be adopted as part of the county master plan and/or serve as a regulatory structure for involved agencies. The planning process was initiated in early 1993 and is expected to be completed in two years.

Demographic Conditions. Flathead County continues to experience rapid population growth. The 1990 U.S. Census showed that the county's population was 59,218, an increase of nearly 14% since 1980. Recent information from the U.S. Census estimated the 1992 population of Flathead County to be nearly 63,000 people. During the 1990 to 1992 period, the U.S. Census estimates that Flathead County grew 6.1% while the State of Montana only grew by 2.9%. Population projections based on historical growth trends show that the County's permanent population could range from about 72,200 to more than 97,000 by the year 2010.

The project corridor lies within two County Census Divisions established for the U.S. Census, the Badrock-Columbia Heights Census Division and the South Fork Census Division. The 1990 Census data indicated that the population of the Badrock-Columbia Heights Census Division increased by more than 15% while the population of the South Fork Census Division remained virtually unchanged between 1980 and 1990.

Summary

A. Project Description

This **Final** Environmental Impact Statement/Section 4(f) Evaluation examines a proposal to reconstruct some 4.4 miles of U.S. Highway 2, also known as Federal-Aid Primary Route 1 (FAP 1), in Flathead County, Montana. **Improvements** to the existing 24-foot-wide two-lane road **would occur** from Columbia Heights, a suburb of Columbia Falls, to Hungry Horse. Included with this action is the construction of a new bridge over the South Fork of the Flathead River. The purposes of and need for the proposed action are discussed in Part I of the EIS.

B. Major Actions Proposed by Other Agencies

The Bonneville Power Administration plans to reconstruct the existing electrical transmission line from Hungry Horse Dam to the Columbia Falls substation. Alternatives for the BPA's proposed reconstruction were evaluated in an Environmental Assessment (EA) prepared by the agency. The EA and a Finding of No Significant Impact (FONSI) for the proposal were approved in September, 1993. This proposed action would affect the electrical transmission lines located above Berne Memorial Park in Badrock Canyon. Work on the project began in 1994.

Efforts are underway to reconstruct and widen portions of U.S. Highway 93, a major north-south arterial, in other parts of the Flathead Valley. The FHWA has prepared an Environmental Impact Statement evaluating road design alternatives and examining the impacts of reconstructing the route from Somers (near the north end of Flathead Lake) to Kalispell and between Kalispell and Whitefish. Whitefish is located some 12 miles west of the Columbia Heights - Hungry Horse project area. The Final EIS for the Somers-Whitefish project was made available for public review in October, 1994.

There are no **other** major actions proposed by other governmental agencies within the project corridor.

C. Reasonable Alternatives Considered

The alternatives considered for evaluation in the EIS were developed through consultations **with** the FHWA, from designs used on adjacent projects, and from public comments on the proposed action. Various locations and numerous design features for the highway were initially considered for the proposed action. Transportation system management (TSM) activities and mass transit options also received consideration for the proposed action.

Reasonable alternatives, and ultimately **the** preferred alternative, were identified through an evaluation of each alternative's ability to address the purposes and needs for this action. Alternatives that did not address the stated purposes and needs of the proposed action were not considered to be reasonable and were eliminated from further study. Part II of the EIS describes the process used to develop reasonable alternatives.

The alternatives evaluated in the EIS include:

- No-action,
- An Improved Two-lane Highway,

- A Two-lane Highway with A Median/Left Turn Lane,
- An Undivided Four-lane Highway, and
- A Four-lane Highway with a Median/Left Turn Lane.

Part II of the EIS contains detailed descriptions of each alternative including its typical cross-section and design features. All build alternatives include similar design features in Columbia Heights and west of Hungry Horse where this project would join recently reconstructed sections of US 2. A new four-lane bridge over the South Fork would also be provided with each build alternative.

D. Preferred Alternative

A four-lane design, identified as Alternative 1 in Part II of the EIS, has been selected as the preferred alternative for the proposed action. This alternative was selected because the projected increases in traffic on US 2 will require a four-lane design to operate at an acceptable level of service (LOS B) in the design year. Level of service calculations predict that the two-lane designs would experience immediate operational problems during peak hours and as daily traffic volumes increase during the twenty year design life of the facility. Part II summarizes the capacity analyses conducted for each alternative examined by this document.

The preferred alternative would include a continuous median/left turn lane from the project's beginning in Columbia Heights to the Berne Road area where a new river access and exhibit site are proposed. A continuous median/left turn lane is proposed in this area due to the density of residential and commercial approaches on both sides of the highway. **An undivided four-lane road is proposed through Badrock Canyon from Berne Road to Hungry Horse.**

Part II provides additional discussion of the reasons that Alternative 1 was selected as the preferred alternative for this proposed action.

E. Tradeoffs Among Alternatives

The following section describes the tradeoffs between the alternatives evaluated for the proposed action. The tradeoffs include both adverse and beneficial considerations on the environment of the project area. The general tradeoffs between the build alternatives and no-action and the more specific tradeoffs between individual build alternatives are identified below.

TRADEOFFS BETWEEN BUILD ALTERNATIVES AND NO-ACTION

The major tradeoffs between implementing the build alternatives and doing nothing in the highway corridor are discussed in this section.

- All build alternatives would provide operational and safety benefits over the continued use of the existing facility.
- All build alternatives are expected to reduce accident rates for the corridor.
- All build alternatives would impact the Flathead River and riparian areas in Badrock Canyon by clearing right-of-way and placing fill in the river.
- The build alternatives have the potential to affect bald eagles by removing vegetation occasionally used for perching or roosting along the Flathead River.

- All build alternatives would directly **and indirectly** convert minor amounts of locally important farmland for right-of-way.
- The build alternatives would affect the features of Berne Memorial Park and affect the use of some facilities at the park. As mitigation for impacts to Berne Memorial Park, **a new roadside exhibit area and river access on the Flathead River would be jointly developed with U.S. Forest Service (USFS), Flathead National Forest. This action would** enhance recreational opportunities in the region. Additionally, incompatible land uses would be controlled in Badrock Canyon through the proposed acquisition of private landholdings.
- The build alternatives would displace several households and businesses along the corridor.
- **Reconstructing the highway and improving access could contribute to additional development in the corridor and at other locations in Flathead County east of Hungry Horse.**
- The build alternatives would adversely affect the visual resources in Badrock Canyon by removing **areas of riparian vegetation** and excavating **a rock outcrop**.
- The build alternatives would require major commitments of money and other resources to construct the new facilities. No-action requires lesser, but continued commitments of these resources for maintenance activities.

TRADEOFFS AMONG BUILD ALTERNATIVES

Analyses performed for the EIS have shown that there would be little difference between the environmental effects and costs of the build alternatives. All designs affect the same features of the corridor and have similar environmental impacts when constructed along the proposed alignment. In sensitive portions of the corridor, the probable construction limits for the four-lane designs are typically 10 feet wider to each side of the highway than those of the two-lane designs. The costs associated with the build alternatives vary by less than 10%. The primary tradeoffs between the build alternatives are related to the operation as indicated below.

- The level of service provided by two-lane alternatives over the next twenty years would be only incrementally better than no-action.
- The four-lane alternatives would provide substantial improvements in the level of service for the facility over the two-lane designs and would minimize or alleviate congestion and delays expected to occur with new two-lane roads.

F. Major Environmental Impacts

The proposed action has the potential to produce both beneficial and adverse environmental effects on the project area. The impacts identified below do not include the short-term effects on the environment that would be experienced during construction.

BENEFICIAL IMPACTS OF THE PROJECT

- **Operational efficiency and the ability** to accommodate projected **traffic growth** over the next 20 years would be increased.

- **Driver** comfort and convenience **would be improved** for users of the facility.
- Traffic safety **would be improved** for users of the facility.
- **Conflicts between through and turning traffic would be reduced** by limiting access and providing turn lanes where appropriate.
- **Recreational opportunities for the public would be expanded** with a new river access on the Flathead River to be developed jointly with the USFS.
- Land near the House of Mystery would be developed to mitigate impacts to Berne Memorial Park. The replacement parkland would provide a safe and controlled area for users of the facility to stop and view interpretive exhibits relocated from the existing roadside park.
- **Reconstruction of the US 2/FAS 206 intersection would give preference to traffic on US 2 rather than traffic on FAS 206 by eliminating the present stop and left turn requirement for eastbound motorists on US 2.**
- **Bicycle facilities in the corridor would be improved** by providing a wide shoulder on the roadway.
- **Pedestrian facilities would be improved** by providing sidewalks at suitable locations in Columbia Heights and at the west edge of Hungry Horse.
- **Acquisition of private lands adjacent to the roadway would help control of future land uses and would provide visual protection in Badrock Canyon.**
- **A park-and-ride lot in Columbia Heights for those who commute to and from work destinations in Canyon communities or in the Flathead Valley would reduce the number vehicle trips on US 2 and help conserve energy.**

Of these items, the major beneficial impacts include: improved operations and increased capacity for future traffic, improvements in traffic safety, control of access within the corridor, and the acquisition of private lands in Badrock Canyon. Increasing the capacity and improving the operation and safety of the highway address essential needs for the proposed action. The accident history for the corridor and its high accident rate are discussed in Part I of the EIS. Controlling access and acquiring private lands in Badrock Canyon provides are measures that will implement needed land use control for the US 2 corridor.

ADVERSE IMPACTS OF THE PROJECT

- **Construction of the highway and a new bridge on a new alignment would require that fill be placed in** the main stem and South Fork of the Flathead River.
- **Some riparian vegetation between US 2 and the Flathead River near Berne Memorial Park which provides screening for foraging bald eagles and perching opportunities would be lost.**
- **Excavation of the west outcrop at Berne Memorial Park would produce visual impacts and affect a spring that surfaces on the outcrop.**
- **Some activities and parkland at Berne Memorial Park would be lost.**

- **Excavation near the west outcrop at Berne Memorial Park would eliminate a portion of the "tote" road, a supply road built through Badrock Canyon by the Great Northern Railroad in the early 1890's.**
- **Conflicting utilities in the corridor would be relocated.**
- **Expansion of the highway right-of-way and road construction would displace or adversely affect some residents and businesses along the highway.**
- Minor amounts of yards and parking areas **would** be lost to right-of-way at several residences and businesses located along US 2.
- Highway expansion **could potentially stimulate** additional development in corridor.
- **Minor amounts of "locally important" farmland would be lost to highway construction.**
- Minor amounts of wetlands **would be impacted or lost to highway construction.**

Of these potential adverse impacts, the loss of bald eagle habitat, the impacts to Berne Memorial Park, and the effects of encroachment on the main stem of the Flathead River are judged to be the major impacts. Separately, these effects may not be significant in context or intensity according to **guidance provided in the Code of Federal Regulations (40 CFR 1508.27)** and the **Administrative Rules of Montana (ARM 18.2.238)**. However, when considered collectively, these major concerns **would** produce a **major** adverse impact on the local environment of Badrock Canyon.

Whenever possible, appropriate measures will be implemented prior to or during the construction of the project to minimize or eliminate adverse impacts.

G. Areas of Controversy

Scoping activities helped to determine the major issues and concerns about this proposed action. These project issues are summarized in Part VI of the EIS. Several major issues identified through the public involvement activities have been the source of controversy during the preparation of the EIS. These concerns are described below.

Impacts on Berne Memorial Park - Public comments were received that called for the preservation of Berne Memorial Park and all of its features. The project's impacts on the spring at the park is of particular concern because local residents rely on it as a source of domestic water. The park's location and uncontrolled access poses numerous traffic safety and recreational use problems. Visitors to the roadside park **wishing to access the Flathead River for recreation must cross US 2**. Concern was expressed about the extent of rock excavation and visual impacts resulting from the construction of a four-lane highway through the Canyon.

Need for a Four-Lane Highway - Comments on the project questioned the need for a four-lane highway through the corridor. A local environmental group, the Coalition for Canyon Preservation (CCP), proposed a two-lane road with turnouts for slow moving vehicles as an alternative to a four-lane facility. The CCP suggested that the highway be designed to preserve or enhance the scenery of the area instead of increasing the size of the facility. Other scoping comments suggested that reductions in travel speeds on US 2 will enhance traffic safety and increase the enjoyment for motorists using the facility.

Design for a Lower Level of Service - The CCP requested that the new highway **be designed** for a level of service lower than that typically used for rural arterials. The group **asserted** that **the** permanent traffic

counter for the corridor is located in an "urban" area of Columbia Heights. CCP further **contended** that volume data from this counter overstates the use of the facility and the proposed highway would be "**over designed**" if these figures serve as the basis for design.

The permanent traffic counter (located near the House of Mystery) does not lie in an area with numerous approaches and dense commercial development adjacent to the highway. **Data has been** collected at the permanent counter since 1986 and periodic "spot" counts **have been conducted** at various locations in and adjacent to the corridor each year. **These counts are believed to** accurately reflect traffic conditions in the project area and provide a sound basis for assuming that traffic volumes on this section of US 2 will continue to increase in the future.

Consideration of a design based on the 50th to 600th highest hour of the year was suggested by the CCP. Common practice is to base designs for rural arterial highways on the 30th highest hour of the year (30HV). Proponents of a lower level of service maintain that significant cost savings and less environmental impact can be realized. The 30HV is an appropriate design value for the proposed action **and is used for the design of rural arterials in Montana.**

Impacts to Threatened or Endangered Species - The project area lies within the Northern Continental Divide Grizzly Bear Ecosystem (NCDE) and also provides habitat suitable for gray wolves, peregrine falcons, and bald eagles. Comments suggest that the proposed action will adversely affect habitat for these species.

H. Unresolved Issues with Other Agencies

During the review of the Draft EIS/Section 4(f) Evaluation, the USFS discovered that an easement for US 2 across a small portion of land in the Middle Fork of the Flathead Wild and Scenic River Corridor may not exist. Uncertainties exist about this issue because "as built" and right-of-way plans for a previous improvement project on this section of US 2 show the affected portion of the Wild and Scenic River Corridor to be within existing highway right-of-way. Documentation also exists showing the road has been in the same general location since 1916. Subsequent investigations have failed to produce an easement or deed for this property. If no easement exists for the highway through the Wild and Scenic River Corridor, an application for an easement from the USFS must be made.

The only **other** unresolved issues with agencies involve satisfying **State and local** permit requirements prior to construction. These permit requirements are discussed at length in the construction impacts section in Part IV of the EIS.

I. Other Federal Actions Required

Actions by several other Federal agencies with interests in the proposed project must be completed prior to construction. Many of these actions are permitting requirements. Necessary Federal actions are identified in the following paragraphs.

Formal Consultation with USFWS - A Biological Assessment outlining the probable impacts to threatened and endangered species in the project area **was submitted** to the U.S. Fish and Wildlife Service (USFWS) in October, 1991. The USFWS disagreed with **the** conclusion that the project is not likely to adversely affect bald eagles or critical habitat used by eagles. Therefore, formal consultation with the agency regarding **potential impacts to the species and its habitat was required to comply with the provisions of the Endangered Species Act.** FHWA requested that formal consultation be initiated in correspondence to the USFWS dated December 20, 1991. **Formal consultation was concluded when the agency issued a "No Jeopardy" opinion on March 24, 1992.**

Granting a Section 404 Permit - If the proposed action advances to the design stage, the U.S. Army Corps of Engineers must issue the appropriate Section 404 permit before there is any placement of fill in the Flathead River system **or any wetlands in the project area**. The permitting process requires a review of the final design plans for the highway **and bridge construction**, an evaluation of the proposal according to the EPA's Section 404(b)(1) guidelines, public notification, and formal processing of a Section 404 permit application. **The Corps of Engineers recommended that a permit application be submitted when the Final EIS/Section 4(f) Evaluation is filed.**

Transfer of Forest Service Land - Flathead National Forest lands required for right-of-way must be transferred to the State of Montana. **The USFS must prepare a Letter of Consent before an easement across forest lands, including those located within the Wild and Scenic River Corridor, can be granted. The transfer of land must be completed prior to beginning construction on the project.**

Actions to secure an easement for crossing land in the Wild and Scenic River Corridor or to obtain right-of-way through other Flathead National Forest lands affected by the proposed project have not yet been initiated. Right-of-way plans, specifying the amounts of National Forest land needed for this project, have not been developed.

The acquisition of right-of-way and subsequent use of Flathead National Forest lands for highway purposes would be accomplished in accordance with the provisions specified in the *Memorandum of Understanding on Procedures Related to State Highways Over National Forest System Lands*. This Memorandum of Understanding between the Montana Department of Transportation (MDT), FHWA, and the USFS was approved on January 27, 1993.

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Introduction

A. The EIS

The Federal Highway Administration (FHWA) and **Montana Department of Transportation (MDT)** have elected to prepare an environmental impact statement (EIS) to assess the effects of the proposed reconstruction of US 2 on the local environment. The general provisions governing the preparation and content of EISs are outlined in the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA). Specific requirements for EISs prepared by FHWA and MDT are contained in 23 CFR 771.111,.115,.123,.127, and .135 and ARM 18.2.237, .238, and .241 through .246, respectively.

FHWA and MDT are the lead agencies responsible for this document. The agencies must follow detailed procedures during the preparation of the EIS including:

- an extensive public involvement process,
- issuance of a draft EIS and a subsequent public hearing,
- review of and responses to all comments on the EIS,
- release of a Final EIS containing corrections or clarification of subject matter and responses to all substantive comments, and
- a 30-day review period prior to the Record of Decision (**ROD**).

The EIS must analyze reasonable alternatives to the proposed action, the existing conditions of the project area, and the potential impacts of the alternatives on the local environment. This document will:

- ensure that the proposal is well planned,
- identify and mitigate environmental impacts, and
- consider the concerns of all agencies, organizations, and the public before decisions implementing the action are made.

B. Scope of Analysis

Based upon a review of project files and meetings with involved agencies and the public, a number of concerns were identified. The EIS will attempt to provide answers to the following questions.

What alternatives will be considered as reasonable alternatives for the proposed action? Which of them will be identified as the "preferred alternative" for this action? When will the project be constructed? How much will it cost to construct each alternative? What benefits will be provided by this proposal?

What impacts will each alternative have on the project area? How much right-of-way will be needed? Will residential or commercial relocations be necessary? To what extent will utilities in the project corridor be affected? Are alternate alignments for the highway or bridge possible?

How will the alternatives impact Berne Memorial Park and Badrock Canyon? Will the wildlife habitat of the area be disrupted by the proposed action? What will the proposal's impacts on threatened or endangered species be? How will the Flathead River and its riparian areas be affected?

What type and how much traffic does the corridor have? What will the future traffic be like on this facility? What provisions will be included in the design that will ensure that traffic flows smoothly and in a safe manner? What provisions will be included for pedestrians and bicyclists? Will access be restricted along the highway?

How will the proposed action affect cultural, historic, visual, and recreational resources in the project corridor?

These questions along with many others will be addressed in the following parts of this document.

C. Research and Documentation

Data used for the EIS analyses is drawn from a number of sources and is the most current information available in most instances. Where necessary information is unavailable, dated, or not project specific, field data was collected. The field investigations conducted for this EIS included: traffic counts at various locations in the corridor, a cultural resource survey, a wildlife and vegetation survey, a wetlands inventory, a land use inventory, and socio-economic studies. Existing reports were used to determine many of the existing physical and socio-economic conditions of the project area. These sources are referenced in the text of the EIS.

Mathematical formulas and computer modeling techniques which are widely used to assess impacts have been employed in the EIS. Such procedures are commonly used to identify air quality, noise, traffic, and water quality impacts. Where appropriate, these techniques have been identified and referenced in the document.

D. Participants and Responsibilities

Numerous agencies, groups and individuals participated in the writing and review of the EIS. Others were responsible for regulating activities associated with the implementation of each project. The following text identifies the major participants and briefly describes their responsibilities as they relate to the EIS.

1. LEAD AGENCIES

Lead agencies are the Federal and/or State agencies preparing the EIS. The lead agencies for this EIS are identified below.

Federal Highway Administration (FHWA): The FHWA is the lead federal agency for this EIS and must ensure that it meets the provisions of NEPA. The FHWA provided guidance during the preparation of the EIS and reviewed it for content and conformance with agency policies. FHWA also administers funding for the Federal-Aid road system.

Montana Department of Transportation (MDT) - MDT is the lead state agency for the preparation of the EIS and must ensure that it complies with all MEPA requirements. The agency provided technical assistance, background information, legal reviews, and other supplemental studies used in the document. MDT allocates Federal-Aid funds for Montana's road system. The agency was responsible for the selection of the **EIS** consultant and the administration of the contract.

2. COOPERATING AGENCIES

Several Federal agencies have jurisdiction by law or special expertise concerning a number of environmental impacts that may result from the proposed action. The agencies listed below agreed to become cooperating agencies for this EIS.

U.S. Army Corps of Engineers (COE): The COE regulates the placement of fill in wetlands or other water bodies and monitors activities in floodplains. The COE provided technical assistance as needed and reviews of the EIS.

U.S. Department of Agriculture - Forest Service (USFS): The USFS, Flathead National Forest manages public land within the project corridor. Flathead National Forest personnel provided technical reviews of the document and contributed to the preliminary design process for the proposed action.

U.S. Department of the Interior - National Park Service (NPS): The NPS, Glacier National Park has an interest in the proposed action because US 2 serves as the primary route for accessing the park. The NPS supplied technical reviews of the EIS and provided information about visual protection and enhancement possibilities for the corridor.

Two other Federal agencies, the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service, declined **opportunities to serve as** cooperating agencies.

3. OTHER FEDERAL AND STATE AGENCIES

Numerous other agencies were involved in the EIS by their contributions of pertinent data, reviews of the EIS, and as the parties responsible for regulating the activities included in the proposed action. These agencies and their responsibilities are highlighted below.

U.S. Environmental Protection Agency (EPA): - Wetlands and air and water quality protection

U.S. Department of the Interior Fish and Wildlife Service (USFWS): Preservation of threatened or endangered species

Montana Department of Fish, Wildlife & Parks (FWP): Wetlands and stream protection, fish and wildlife habitat preservation

Montana Department of Health & Environmental Sciences (MDHES): Air and water quality protection

Montana Historical Society, State Historic Preservation Office (SHPO): Protection of historical, archaeological and cultural resources

4. THE PUBLIC

The NEPA and MEPA processes are intended to ensure that environmental information is available to public officials and citizens before decisions are made. These processes allow for participation early in the preparation of the EIS so that the scope of the document can be focused on important issues. Numerous opportunities have been provided for oral and written comments on the proposed action. **All comments were considered during the development of the EIS.**

5. THE EIS CONSULTANT

Robert Peccia and Associates (RPA), **a consulting civil engineering firm from Helena, Montana was selected** to prepare the EIS for the proposed action. The firm has the responsibility to perform research, conduct technical studies, present materials at public meetings, and coordinate and prepare the document. RPA employed subcontractors to provide expertise and prepare specialized studies for the EIS.

E. Project Funding

The continued planning, design, and construction of the proposed action will be accomplished through funds allotted for the development of the National Highway System in Montana. The Intermodal Surface Transportation Efficiency Act of 1991 **authorized in December, 1991**, restructured the Federal-aid highway system to provide funds for the National Highway System (including interstates and important highway connectors) and for all other roads on the new system. Funding for the program is derived from federal highway user taxes and fees. **Based on current allocations of these funds, about 87% of the cost of this proposed project would be paid for with Federal funds.** State funds are also needed to match the federal contribution. Matching funds are generated through motor vehicle registration fees, vehicle fuel taxes, and from gross vehicle weight taxes. Federal monies and state matching funds were used to prepare the EIS.

Part I: Purpose and Need for Action

A. Description of the Proposed Action

The proposed action would reconstruct some 4.4 miles of U.S. Highway 2 (US 2) lying between Columbia Falls and Hungry Horse. The reconstruction would begin in Columbia Heights at the intersection of US 2 and Federal-Aid Secondary Route 206 (FAS 206) and continue northeasterly to Hungry Horse. The replacement of the existing bridge over the South Fork of the Flathead River west of Hungry Horse would be included with **the** proposed reconstruction activities on the route. **FIGURE I-1** shows the location of the project area.

US 2, a principal arterial, has been designated as Federal-Aid Primary Route 1 (FAP 1). This proposed action **is known as** Project F1-2(39)138 and Mileposts 138.3 and 142.7 **on the route were selected** as termini. These milepost locations were selected as termini because they are the ending or beginning points for recent reconstruction projects along the route.

Current (1992) traffic volumes on US 2 in the immediate vicinity of the proposed action range from about 7,700 vehicles per day west of Columbia Heights to more than 5,400 vehicles per day east of Hungry Horse. Substantial variations in traffic volumes occur on this route each year because it is used to access Glacier National Park. Recreational travel between June and September produces traffic volumes which are often more than two times higher than the average daily traffic on the route.

Typical conditions in the project corridor are presented in PHOTO PLATES 1 and 2.

B. Condition of the Existing Facility

Construction on the existing facility began in 1929 and continued during the mid-1930's. Improvements to the roadway were implemented in 1965 and 1966. The portion of US 2 in the project area has received only maintenance and safety improvements since 1966. The existing highway has a 24-foot wide paved surface with little or no shoulder area. The alignment of US 2 in the project area has numerous horizontal and vertical curves which limit sight distance. Steep roadside slopes are present in several locations within the corridor.

The physical condition of the state road system **is periodically evaluated** to help establish priorities for allocating construction funds. Among the items examined **during such evaluations** are the pavement condition (based on a physical inspection of surfacing defects) and the pavement serviceability index (PSI). The PSI correlates a mechanical measurement of surface roughness with the perceived roughness of the highway. **A** recent summary of the physical condition of this section of US 2 showed that the facility rates a score of 40 out of 40 possible points for pavement distress and has a PSI of 3.5 on a 5.0 scale for surface roughness.

The existing bridge across the South Fork of the Flathead River was completed in 1938 and has not received major renovations since then. The bridge deck is only 26-feet wide.

C. Need for the Proposed Action

Reconstruction of US 2 between Columbia Heights and Hungry Horse **has been proposed for the following reasons:**

- the existing highway was constructed in the 1930's to design standards that are inadequate for current traffic volumes.
- the existing highway operates at an unacceptable level of service under current traffic conditions and the level of service will continue to deteriorate in the future as traffic volumes increase.
- the road's foundation, width, and horizontal and vertical alignments are poor.
- adjacent sections of US 2 have been recently reconstructed to higher standards.
- the accident rate on the existing highway is substantially higher than the statewide average for other Primary Routes.
- the route has a wintertime accident problem.
- the highway is part of a heavily traveled scenic route that provides access to Glacier National Park.
- the project area has substantial highway commercial and residential development and the potential for additional growth.

The following paragraphs further describe the needs for the proposed action.

1. PROJECT STATUS

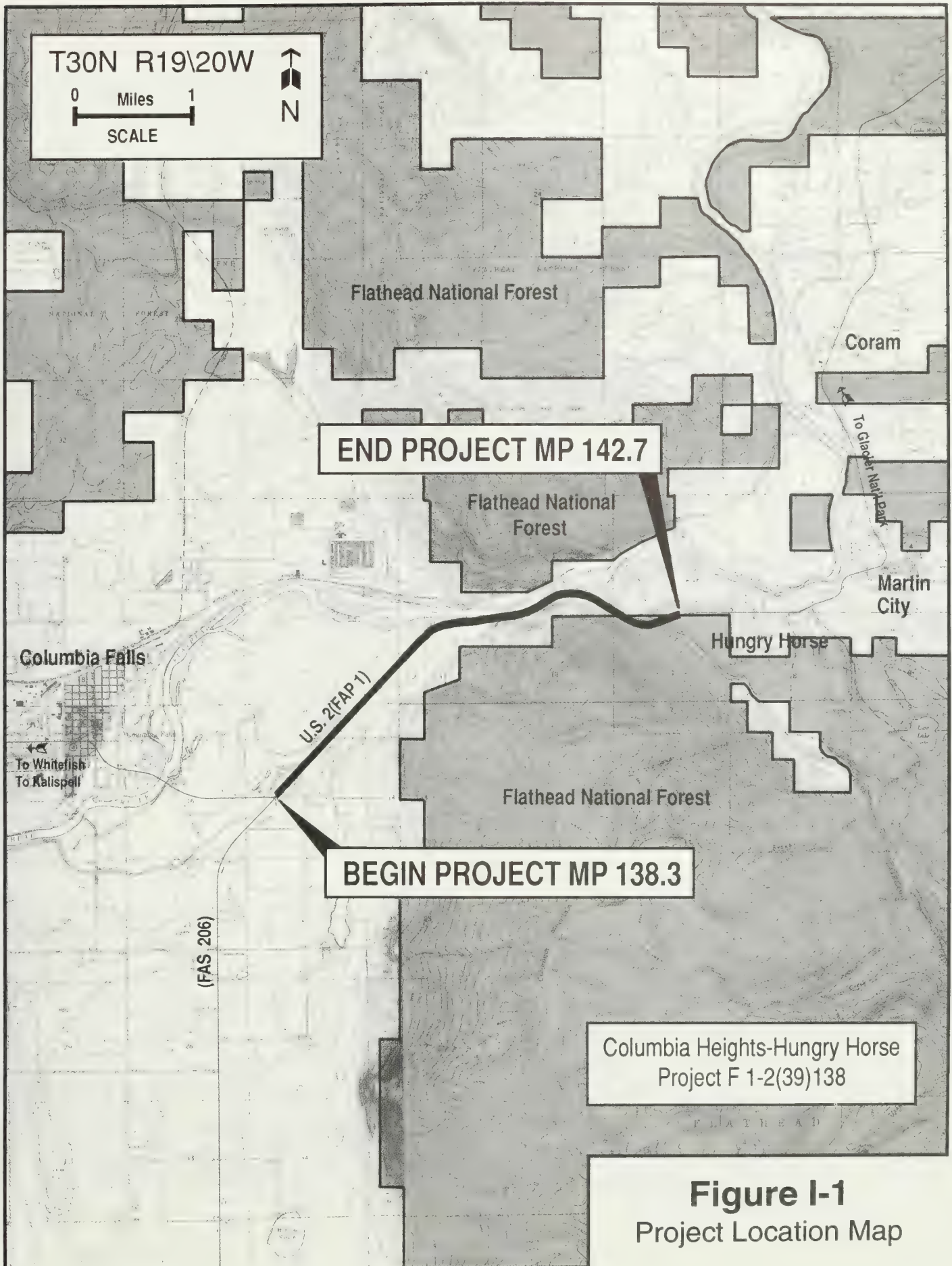
Although the proposed action was considered for many years, formal efforts towards its implementation did not begin until 1988. Authorization from the FHWA to begin preliminary engineering activities **was received** in October, 1988. In April of 1989, **proposals were requested** from consultants to provide necessary environmental documentation for the proposed action. Robert Peccia & Associates **of Helena, Montana** **was selected** to prepare the EIS in June, 1989.

Public meetings on the proposed action were held in Columbia Falls during October, 1989 and in June, 1990. The primary purposes of these meetings were to obtain input from the public on issues relevant to the project, to discuss highway design alternatives, and to provide information about the potential impacts of the proposed highway development. The Draft EIS/Section 4(f) Evaluation was circulated for public review in July, 1992. A public Design/Location hearing was held on December 10, 1992 in Columbia Falls. Comments on the Draft EIS were accepted until early 1993. The document has subsequently been modified in response to comments from the public and reviewing agencies. Part VI of the EIS summarizes scoping efforts and includes comments on the Draft EIS/Section 4(f) Evaluation.

An "Open House" informational meeting was held in Columbia Falls on November 9, 1994. This meeting was held to discuss design modifications to the preferred alternative and to provide new information relevant to the project.

2. CAPACITY

Current Traffic Volumes - Traffic on US 2 has been monitored at locations in and near the project corridor with a continuously-recording permanent counter since 1982. A permanent automatic traffic recorder (ATR) **was initially installed** between Hungry Horse and Martin City. The ATR (Station A-60) was moved to MP 139.5 (near the House of Mystery) prior to reconstructing US 2 **north of Hungry Horse.**



Traffic volumes on this segment of US 2 have continued to increase since 1982. **TABLE I-1** shows the annual average daily traffic (AADT) for ATR Station A-60 since 1982 (1). This data reveals that traffic on US 2 increased consistently over the period. The 1985 AADT for the old ATR location was 11.83% higher than the corresponding figure for 1982. This represented an average annual growth rate of +2.96% for the **1982-1985 period. The 1992 AADT at the new ATR location (MP 139.5) was also 33.96% higher than the 1986 AADT. This represents an average annual growth rate of +4.85% during the past seven years at the new ATR site.**

Records from other ATR stations on US 2 provide additional insight on traffic growth on the route (1). Since 1982, the **AADT** on US 2 has increased by **57.1%** at Station A-24 near Kalispell and by **30.2%** at Station A-36 west of Browning. This compares to an overall increase in traffic of **61.2%** for the same period at Station A-60. The average annual growth rates for the **1982-1992 period** at Stations A-24 and A-36 were **5.19% and 2.75%**, respectively.

TABLE I-1 HISTORICAL TRAFFIC VOLUMES AT ATR STA. A-60 ANNUAL AVERAGE DAILY TRAFFIC										
1982*	1983*	1984*	1985*	1986	1987	1988	1989	1990	1991	1992
3549	3922	3967	3969	4270	4520	4697	4775	5010	5116	5720
* ATR located between Hungry Horse and Martin City										

Considered together, these statistics suggest a trend of steady growth in traffic volumes on the route and the project area since 1982. Current **(1992) AADT** for the ATR and other count locations in and near the project corridor are shown in **FIGURE II-1** in Part II of the EIS.

Existing Level of Service - Capacity analyses, based on current AADT volumes at Station A-60, show that the existing highway operates at a Level of Service E (LOS E) during the peak travel periods. LOS E is indicative of unstable traffic flows, delays, average travel speeds of less than 50 mph, and long lines of vehicles caused by the inability to pass slower cars. This condition is expected to occur in July and August when traffic volumes within the corridor nearly double.

Projected Design Year Traffic - Regression analysis, a method of projecting future traffic volumes based on historical data, predicted that traffic at Station A-60 would be about **8,850** vehicles per day by the design year (2010).

Existing data shows that traffic volumes on US 2 will increase regardless of the proposed improvements on the route. **FIGURE II-6** in Part II shows projected design year traffic volumes at count locations in and near the project area.

Projected Design Year Level of Service - The American Association of State Highway and Transportation Officials (AASHTO) recommends that rural arterials be designed to operate at a LOS B some 20 years into the future (2). AASHTO guidance also indicates that the 30th highest hourly volume of the year (30HV) provides a reasonable design control for rural arterials (3). Both of these general policies **are followed** in the design of rural arterials **in Montana**.

With no improvements and steady traffic growth, the operating conditions of the existing highway will continue to deteriorate and the facility will function at LOS E more frequently through the design year.

The capacity calculations indicate that two-lane highways incorporating design features, such as medians

Photo Plate 1 - Typical Conditions In Project Area

- Photo 1 -** The proposed action begins in Columbia Heights. This photograph was taken from FAS 206 west of the intersection with US 2. Traffic on US 2 must stop or yield before proceeding to Hungry Horse or Bigfork.
- Photo 2 -** Commercial strip development is moderately dense in Columbia Heights. Note that access to US 2 is unrestricted in many locations in this area.
- Photo 3 -** Between Columbia Heights and Badrock Canyon, US 2 passes through gently rolling terrain. Note that guardrail has been installed to protect motorists from steep fill slopes adjacent to the highway.
- Photo 4 -** The proposed action ends in Hungry Horse where an adjoining segment of US 2 was recently reconstructed. This photo shows the transitional area between the four-lane highway in Hungry Horse and the existing two-lane road east of the bridge over the South Fork of the Flathead River.



Photo 1



Photo 2



Photo 3



Photo 4

Photo Plate 2 - Deficiencies

- Photo 1 -** The existing highway has paved shoulders that are less than two feet wide. The shoulder's narrow width combined with high traffic volumes on US 2 creates hazardous conditions for bicyclists using the facility.
- Photo 2 -** The cliff at the west end of Berne Memorial Park limits sight distance for motorists. Improvements to the facility's horizontal alignment are necessary to eliminate unsafe conditions and to develop a new highway based on 60 mph design standards.
- Photo 3 -** The existing highway was constructed more than fifty years ago and has had few improvements since then. The pavement surface has deteriorated (evidenced by the numerous patches shown here) and needs major repairs.
- Photo 4 -** The existing highway has several locations where vertical curves must be improved.



Photo 1



Photo 2



Photo 3



Photo 4

or left turn lanes, may improve the operation of the facility. However, the analyses clearly show that the two-lane options would not provide an acceptable level of service in the design year. Four-lane designs were shown to operate at LOS B or better under current and design year traffic conditions. These analyses are discussed further in Part II of the EIS.

3. ROADWAY DEFICIENCIES

Inadequate Cross-section - As stated previously, the existing two-lane highway was initially constructed more than fifty years ago and has received only maintenance and safety improvements since its completion. The existing 24-foot wide facility is not consistent with geometric design policies for rural arterials established by AASHTO guidelines or **departmental** design standards. **These sources of design information** indicate that a two-lane rural arterial with traffic characteristics like this section of US 2 should, at a minimum, have 12-foot lanes and 10-foot surfaced shoulders. The existing facility is obviously inadequate considering current minimum design standards for two-lane rural arterials.

Some portions of the corridor also have roadsides that do not meet **design** standards for slopes and ditches.

The existing bridge over the South Fork of the Flathead River was constructed in 1938 and can accommodate only a 26-foot wide road. Clearly, the bridge deck does not provide sufficient surface width to meet minimum standards for driving lanes and shoulders on rural arterials.

Substandard Geometrics - The alignment of US 2 between the House of Mystery and Hungry Horse needs improvements because several existing horizontal and vertical curves do not meet the criteria for a 60 mph design. Three sharp horizontal curves in Badrock Canyon (including one 7° 00', one 8°00', and one 10°00'curve) and several vertical curves along the route do not meet 60 mph design standards. Adjacent sections of US 2 have been reconstructed to geometric standards based on higher design speeds. Similar improvements are necessary for the US 2 in the project area to maintain design continuity on the route. Please refer to APPENDIX 1 for a general discussion of design speed and geometrics.

Deteriorated Physical Conditions - The existing pavement of US 2 within the project corridor has deteriorated and needs repairs. Evaluations of pavement condition and the PSI for this section described earlier in **this** Part, suggest a need for rehabilitating the pavement or reconstructing the highway. The estimated cost of rehabilitating the pavement and maintaining it in a condition similar to its present state through the design year would be **nearly \$380,000**. Rehabilitation of the pavement surface would not provide a facility that meets geometric design standards for road width or increase the road's capacity.

Roadway Improvements Provided by the Proposed Action - At a minimum, the proposed action would provide paved driving and shoulder surfaces and roadside slopes that are consistent with MDT design standards and AASHTO guidelines for rural arterials. The proposed action would improve the horizontal and vertical alignments of US 2 to 60 mph design standards and eliminate existing sight distance problems. These improvements would provide direct operational and safety benefits for the corridor.

4. SAFETY

Accident History of the Corridor - For the period from January 1, 1983 through December 31, 1990, 188 accidents, including 6 fatal accidents and 100 accidents with injuries or possible injuries, **were recorded** in this 4.4 mile-long segment of US 2 (4). These accidents produced 7 fatalities and more than 160 injuries.

One hundred twelve of the 188 reported accidents occurred during the January 1, 1987 through December 31, 1990 period examined in detail for the EIS. The locations of these accidents are shown in **FIGURE I-2** and the primary characteristics of the accidents are summarized in **TABLE I-2**. During the four-year period,

**TABLE I-2
ACCIDENT CHARACTERISTICS**

**U.S. HIGHWAY 2 - COLUMBIA HEIGHTS
TO HUNGRY HORSE (MP 138.3 TO MP 142.7)**

ACCIDENT PERIOD: 1/01/87 to 12/31/90

**NUMBER OF ACCIDENTS
BY YEAR**

1987	1988	1989	1990
34	29	23	26

**NUMBER OF ACCIDENTS
BY DAY OF WEEK**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
19	11	12	10	16	18	26

NUMBER OF ACCIDENTS BY MONTH

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
11	12	9	1	10	16	12	14	7	2	13	5

NUMBER OF ACCIDENTS BY TIME OF DAY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5	6	0	3	4	0	3	4	4	4	2	2	3	9	6	8	10	6	10	5	5	5	5	3

**NUMBER OF ACCIDENTS
BY LIGHT CONDITIONS**

Day	Dark	Dawn	Dusk
66	43	2	1

**NUMBER OF ACCIDENTS
BY ROAD CONDITIONS**

Dry	Wet	Snowy	Ice	Other
61	10	1	37	3

**NUMBER OF ACCIDENTS
BY WEATHER CONDITIONS**

Clear	Rain	Snow	Fog	Cldy.	Unk.
59	7	13	1	31	1

NUMBER OF ACCIDENTS BY TYPE

Angle	Rear End	Fixed Object	Rollover	Animal/Veh. Collision	Sideswipe Meeting	Sideswipe Pass	Head-on	Backing	Non-Collision Other
9	19	40	18	0	5	2	11	0	8

CONTRIBUTING CIRCUMSTANCES

No Apparent Violation	Drinking	Reckless Driving	Excessive Speed	Failure to Yield ROW	Improper Passing	Improper Turning	Improper Backing	Other
28	19	22	22	5	2	1	1	12

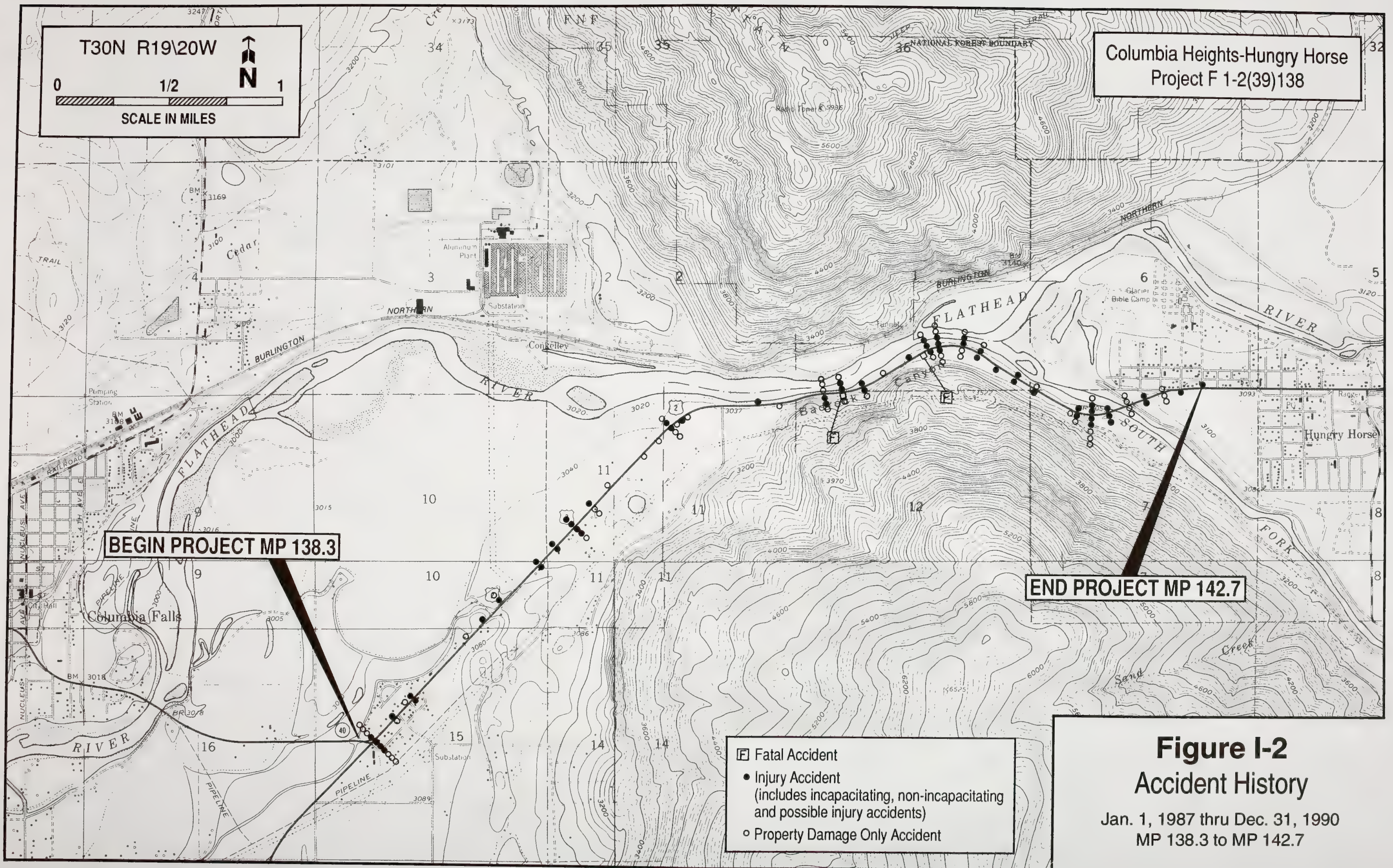
NUMBER OF ACCIDENTS BY SEVERITY

	1987	1988	1989	1990	4 Year Total
Fatality	1	1	0	0	2
Injury	15*	15*	13*	13*	56
Property Dam. Only	18	13	10	13	54

* Includes possible injury, incapacitating, and non-incapacitating injury categories from HIS printout

NUMBER OF ACCIDENTS INVOLVING

Motor Homes (RVs)	0
Mini Bus/Vans	3
Vehicles w/ Trailers	2
Motorcycles	2
Bicycles	0
Pedestrians	0
Semis/Tractor Trailers	2
Animals (Avoiding Collision)	5
Parked Vehicle	1



2 fatal accidents, 56 injury accidents, and 54 property damage only accidents were recorded for the corridor. Statistics show that the average severity of the accidents within the project corridor during the period were comparable to other Primary roads in Montana.

The overall accident rate for this section of US 2 during the four-year study period was calculated to be 3.67 accidents per million vehicle miles of travel (ACC/MVMT). This compares to an average accident rate for Montana's Primary Road system of 2.19 ACC/MVMT over the same four-year period. The current accident rate for US 2 in the project area is more than 1.7 times higher than the average accident rate for other Primary Roads in the state.

Seventy of the accidents during the study period (63%) happened between Berne Road and Hungry Horse where the alignment of US 2 parallels the Flathead River. **The accident rate for this 2.5 mile-long segment of the corridor was determined to be 4.04 ACC/MVMT and is 1.8 times higher than the average accident rates for Primary Roads in Montana during the study period.** The accident rate for the Columbia Heights to Berne Road section was calculated to be 3.18 ACC/MVMT.

Safety Problems - The existing highway between Columbia Heights and Hungry Horse has several physical features and operational characteristics that present hazardous situations to motorists. These features and characteristics include:

- a narrow road with limited shoulder area,
- steep slopes adjacent to the road,
- horizontal curves with limited sight distance,
- sharp curves on the approaches to the narrow South Fork bridge,
- numerous fixed-objects in the roadside environment,
- unrestricted access to businesses and residences along the highway,
- frequent use by bicyclists and pedestrians,
- substantial use of Berne Memorial Park coupled with uncontrolled approaches and limited sight distance in the vicinity of the park,
- lines of cars (queues) often form behind slower vehicles during peak travel periods, and
- reduced travel speeds in queues combined with inadequate opportunities for passing produce delays for motorists and contribute to driver frustrations and traffic conflicts.

The most common accidents in the corridor are collisions with fixed-objects along the road or run-off-the-road rollover incidents. The accident data shows that 35% of the accidents during the four-year period evaluated were collisions with fixed-objects. This is significantly higher than the average of 24% for collisions with fixed-objects on all Primary roads in Montana. The percentages of off-road accidents and vehicle rollovers during the period were comparable to statewide averages for Primary Routes.

Winter weather and shading from adjacent terrain often produces snowy/icy road conditions or periods of blowing snow within the corridor. The 1987 through 1990 accident data for the corridor shows that fifty of the reported accidents occurred during the months of November, December, January, February, and March when winter driving conditions may be encountered in the project area. Thirty-six percent of the accidents

in the project corridor during the study period occurred when roads were snowy, icy, or slushy. Data on accident characteristics shows that about 25% of the accidents on the statewide Primary road system occur under such road conditions.

The corresponding accident rate for the months of November through March during the four-year study period was 6.46 ACC/MVMT, a rate 2.9 times higher than the four-year statewide average accident rate for Primary Routes. The four-year average accident rate for the months of April through October was 3.16 ACC/MVMT. **A comparison of these rates shows that the "winter time" accident rate for the corridor was more than twice as high as its accident rate for the months of April through October during the four-year study period.**

Twenty-three accidents occurred in the vicinity of Berne Memorial Park (MP 140.5 to 141.2) during the four-year study period. Two fatal accidents and ten injury accidents occurred in this segment during the period. The accident rate for US 2 in the vicinity of Berne Memorial Park was determined to be 4.74 ACC/MVMT during the study period. **This rate is 1.7 times higher than the four-year statewide average accident rate for Primary roads.** Fallen rocks from the cliffs in Badrock Canyon near Berne Memorial Park have been reported in the past (5). However, the analysis of accident data does not show that this hazardous condition caused or contributed to any traffic accidents during the 1987 through 1990 period.

A total of 25 accidents occurred on the South Fork bridge or in the curves approaching the structure (MP 142.0 to 142.6) during the study period. Eleven of these accidents resulted in injuries. **The four-year average accident rate for this section of US 2 was calculated to be 6.00 ACC/MVMT, some 2.7 times higher than the four-year statewide average for Primary Routes.** Sixty-eight percent of the accidents in this area occurred when roads were wet, slushy or icy and in twelve incidents, motorists lost control and struck fixed-objects adjacent to the road or bridge railings.

Safety improvements were installed in the corridor during 1988 and 1989 in an attempt to make the roadside environment on the approaches to the bridge less hazardous and reduce the severity of run-off-the-road incidents and fixed-object collisions. Accident records after safety improvements were completed do not show a significant decline in the number or severity of accidents (4). This data **suggests** that minor safety projects **may** not effectively address fundamental problems with the facility and the harsh roadside environment. More major actions are necessary to correct alignment deficiencies and make the roadside less severe.

Safety Improvements Provided by the Proposed Action - The proposed action will generally correct or improve existing safety hazards in the corridor by limiting access to the road, providing a safer and more forgiving roadside environment, improving sight distance, and providing a wide shoulder for use by pedestrians and bicyclists. An improved traffic facility would also increase passing opportunities and relieve congestion.

The proposed highway reconstruction will not prevent snowy or icy road conditions from occurring on the facility during the winter months. However, measures incorporated into the proposed action would increase the effectiveness of winter maintenance activities and improve winter driving conditions for the public. The wide shoulders and flatter roadside slopes proposed for this project will provide room for snow storage away from travel lanes. Selective clearing of trees within new highway right-of-way may increase the number of locations within the corridor where the sun can melt snow from roadway. The improved alignment of the facility combined with the increased width of the roadway surface would make this section of highway less demanding for the motorist to negotiate during winter road conditions.

The hazardous conditions presented by sharp curves, limited sight distance, and the narrow bridge over the South Fork would be addressed by constructing a new four-lane bridge and improving the alignment of the approaches to the structure. Problems with unrestricted approaches and restricted sight distance in

the Berne Memorial Park area would be addressed by eliminating the sharp curves to the east and west of the park. Additionally, conflicts between users of this roadside area and through traffic would be addressed by restructuring the access to and the use of the area.

5. SYSTEM LINKAGE

The proposed action will link two recently reconstructed sections of US 2 and will substantially complete the renovation of the route between Kalispell and West Glacier. Reconstructed four-lane roads adjoin both ends of the project corridor. The Columbia Falls East-West project, **located immediately west of Columbia Heights**, was constructed 1985 and **provided an 88-foot wide surface on US 2**. During 1986, a 66-foot wide four-lane highway through Hungry Horse and a 64-foot wide four-lane from Hungry Horse to Coram were built. A widened two-lane road with truck climbing lanes was also constructed between Coram and West Glacier in 1985.

The proposed action is needed to provide **design** continuity between **projects on adjoining sections of US 2**. Design continuity is an important consideration because it relates to the motorist's ability to respond to driving situations in predictable and successful ways. Drivers on adjacent sections of US 2 **accustomed to high design roadway geometrics and design features** must adjust to less favorable driving conditions within the project area. The failure to provide similar geometrics or road design features between projects on this route may violate the expectations of motorists and inhibit their **driving** performance.

6. TRANSPORTATION DEMAND

Relationship to Local Transportation Plans - The portion of US 2 included in this proposed action is not included any local transportation plans. However, the *Columbia Falls Planning Jurisdiction Master Plan* and the *Flathead County Master Plan, Year 2000* (1987) address land use and development issues along US 2. Policy recommendations in both Master Plans discourage the development of new strip commercial areas along transportation corridors like US 2. The transportation element of the *Flathead County Master Plan* also identifies US 2 between Columbia Heights and Hungry Horse as one of four high accident areas on the road system in the County.

The *Flathead County Master Plan, Year 2000* lists three transportation goals that relate to the highway system in the county. They are:

- 6A Safe and dependable access to all developed land in the county.
- 6B A comprehensive circulation system which serves to efficiently interconnect all areas of the county with the region beyond.
- 6C An awareness that roads and highways provide the window that many people view the county from and therefore, signage, landscaping, road location, road design, building setbacks, and parking should be tempered to provide the optimum results.

The proposed action is consistent with the policy recommendations and transportation goals contained in the Master Plan documents. The acquisition of private lands in the corridor offers a way to control land use and development adjacent to the highway and ensure visual protection on acquired lands. The proposed action would provide improvements that would increase the safety and efficiency of the existing route for local and regional users of the facility.

Relationship to Statewide Transportation Plans - The Intermodal Surface Transportation Efficiency Act of 1991 restructured the Federal-Aid highway systems and will create a National Highway System (NHS) consisting of the present Interstate system and designated Primary routes in Montana by 1995. Until that

date, all of Montana's principal arterial routes (like US 2 in the project corridor) are part of the Interim NHS and eligible for funding under this category. **US 2 is one of the Primary roads that will be included on the future NHS.** Policies formulated by the American Association of State Highway and Transportation Officials (AASHTO) will provide the basic road design guidance for future projects on the NHS.

Future development of US 2 in the project area is addressed by the *Geometric Design Standards and Route Segment Plan* approved in December, 1992. This document replaced the previous set of *Geometric Design Standards* (1986) and the *Rural Primary Level of Development Plan* (1985). The new document identifies the geometric design standards that will be used to develop the Interstate and non-Interstate segments of the NHS, non-NHS Primary routes, Secondary routes, and highway development in urban and developed areas.

Pertinent to this proposed action, the NHS Route Segment map in the *Geometric Design Standards and Route Segment Plan* indicates that future development of US 2 should provide a road surface that is at least 40 feet wide (6). Although this document provides the general framework for development of state roads, reconstruction of route segments must be advanced on a project-by-project basis and comply with all federal and state environmental statutes.

7. SOCIAL DEMANDS OR ECONOMIC DEVELOPMENT

Social Demands - Between Columbia Falls and West Glacier, US 2 passes through terrain nationally recognized for its scenic and recreational qualities. The highway provides the primary access to Glacier National Park at West Glacier as nearly 40% of the visitors enter at this location. **Annual visitation to Glacier National Park has steadily increased since 1985. Visitation during 1992 was 2,199,767, the highest annual visitation total recorded since a new visitor counting method was implemented in 1985 (7). The 1992 visitation total was 39.2% higher than the comparable figure for 1985.**

US 2 also provides access to reaches of the Flathead Wild and Scenic River System. A Recreational River segment of this system is located near Hungry Horse. The proposed action will provide additional safety, comfort and convenience for visitors that use this route to access Glacier National Park and other public recreation lands in the area.

Economic Development - Flathead County is one of the fastest growing regions in Montana and relies heavily on tourism for its economic well being. Some existing businesses have expanded and several new businesses have located along US 2 between Hungry Horse and West Glacier since previous improvements on the route were completed. Additionally, this area has seen an increase in residential uses since the mid-1980s.

The primary reasons for this commercial and residential activity can be attributed to the unique beauty of the region, the increasing numbers of seasonal visitors to the area, and the influx of new county residents. Business and residential development has occurred in response to demands by visitors and local residents. There is a strong likelihood that these factors may contribute to similar residential development in the project corridor.

The project area contains vacant or agriculturally-used parcels that can absorb additional residential and commercial development if the demand arises. **Currently**, no county land use controls, other than subdivision reviews or public health requirements, are in place to limit new development adjacent to the US 2 corridor. **A land use plan for "Canyon" communities in Flathead County along US 2 has been completed and efforts to implement land use controls are underway.** The proposed acquisition of private lands in Badrock Canyon and access control provisions are two measures which **can be implemented** with this proposed action to help control land uses along US 2.

D. Purpose of the Proposed Action

Based on the needs for reconstructing US 2 between Columbia Heights and Hungry Horse discussed above, the stated purpose of the proposed action is to provide for the safe and efficient movement of traffic.

To accomplish this underlying purpose, the proposed action must:

- incorporate physical characteristics designed to increase the safety, comfort, and convenience of the traveling public;
- yield an acceptable level of service (LOS B) with sufficient reserve capacity under design year traffic conditions;
- effectively link and provide design continuity between previously reconstructed portions of the route; and
- satisfy geometric standards for a 60 mph design speed.

References for Part I

1. Montana Department of Transportation, Traffic Operations Section, *Montana Automatic Counters*, 1992.
2. American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 1990, Washington, D.C., 1990, page 495.
3. AASHTO, Page 494.
4. HIS Accident Summaries, January 1, 1983 through December 31, 1990.
5. Yarger, Terry, **Supervisor, Geotechnical Section, MDT Materials Bureau** in a meeting held on March 9, 1990.
6. Montana Department of Transportation, Highways Division, *Geometric Design Standards and Route Segment Plans*, December 4, 1992, page 4.
7. Vanderbilt, Amy, Public Affairs Officer, Glacier National Park, in a personal communication on **August 17, 1993**.

Part II: Alternatives

A. Introduction

Alternate actions for the proposed reconstruction of US 2 between Columbia Heights and Hungry Horse are discussed in this part. The alternatives considered for this proposal include two-lane and four-lane road designs, options to maximize the efficiency of the existing facility, and "no-action". Alternatives were discussed at public meetings held in October, 1989 and in June, 1990. Part VI of the EIS contains summaries of the comments received at these meetings.

The following text describes the existing and projected design year traffic conditions of the project area which are one of the primary considerations used in the development of reasonable alternatives. This section **also** describes the process and decisions that led to the selection of the preferred alternative.

B. Existing and Projected Traffic Characteristics

1. SOURCE OF TRAFFIC DATA

Traffic on US 2 at locations in and near the project corridor has been monitored for more than 40 years using continuously-recording permanent counters and portable counters. A permanent automatic traffic recorder (ATR) on US 2 **was installed** between Hungry Horse and Martin City in 1982. The ATR (Station A-60) recorded hourly traffic volumes at this location through 1985. ATR Station A-60 **was moved** to MP 139.5 (near the House of Mystery) prior to reconstructing US 2 between Hungry Horse and Coram.

The permanent counter is located between Monte Vista Drive and Berne Road in an area typical of rural conditions in the corridor. Land use in the vicinity of the counter is primarily agricultural with scattered residences. The House of Mystery is the only highway commercial business located near the permanent counter. The density of approaches and development is notably less in this area than in Columbia Heights.

Short-term traffic volume data is collected using portable traffic counters at other locations in and near the project corridor each year. These count locations include:

- Station 4A-1 on FAS 206
- Station 4A-3 on US 2 west of the South Fork bridge
- Station 4A-4 on US 2 at former ATR Station A-60
- Station 4A-13 on US 2 west of junction with FAS 206

FIGURE II-1 shows the locations of the portable counters and ATR Station A-60. Data from the permanent counter allows annual traffic volumes and variations in traffic **to be quantified**. Periodic counts provide information about specific use characteristics of US 2 and adjoining routes. **FIGURE II-1** also presents **recent** traffic volumes for all count locations in the project area.

Please note that new traffic data for the project area became available after the publication of the Draft EIS. The data showed that the 1992 annual average daily traffic (AADT) at Station A-60 was 5,720, an increase of 11.8% over the 1991 AADT. The 1992 AADT also represents a traffic increase of more than 14% from the 1990 AADT at this station. Traffic volume increases were recorded for other count locations on US 2 in the project area.

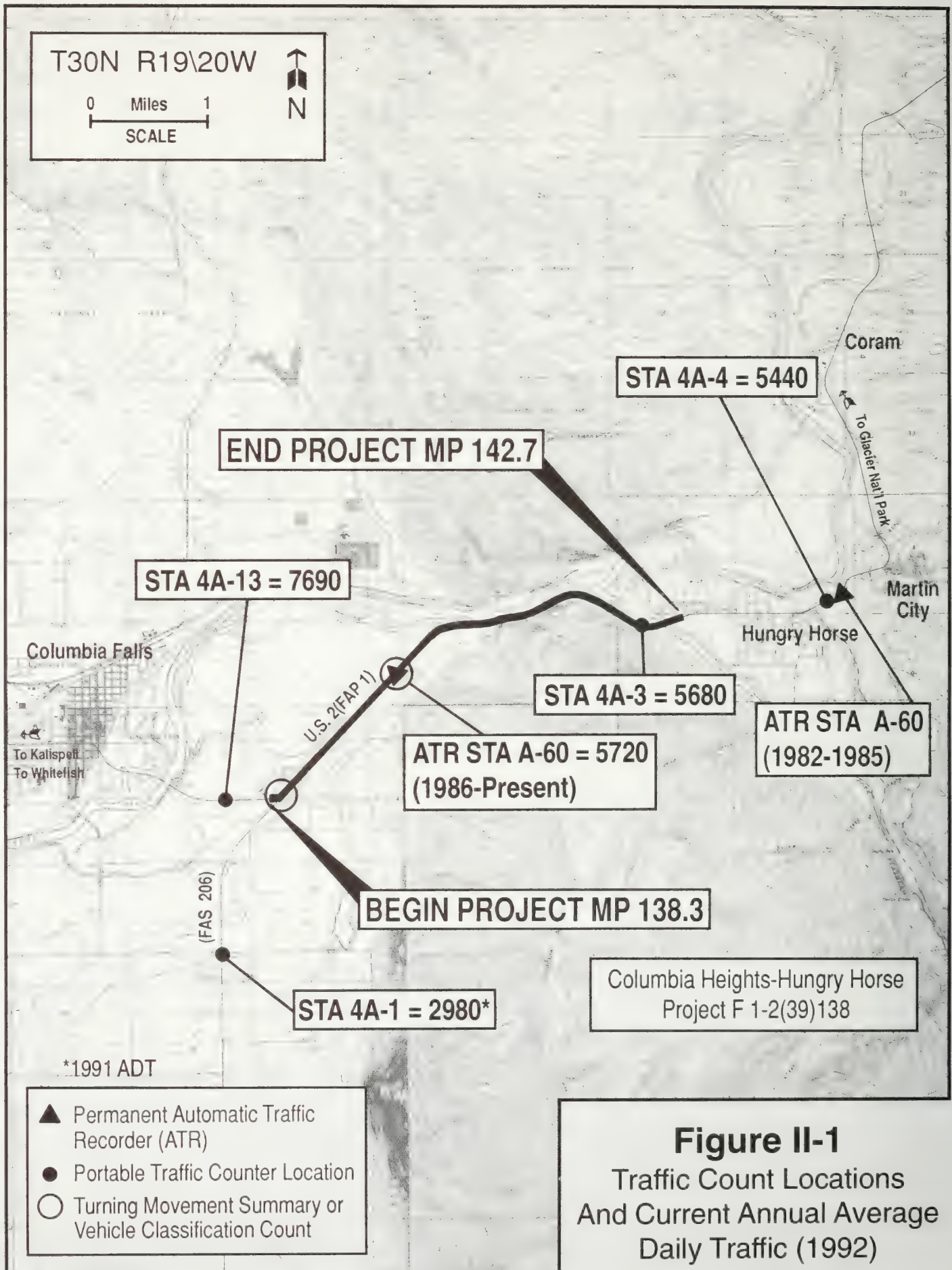


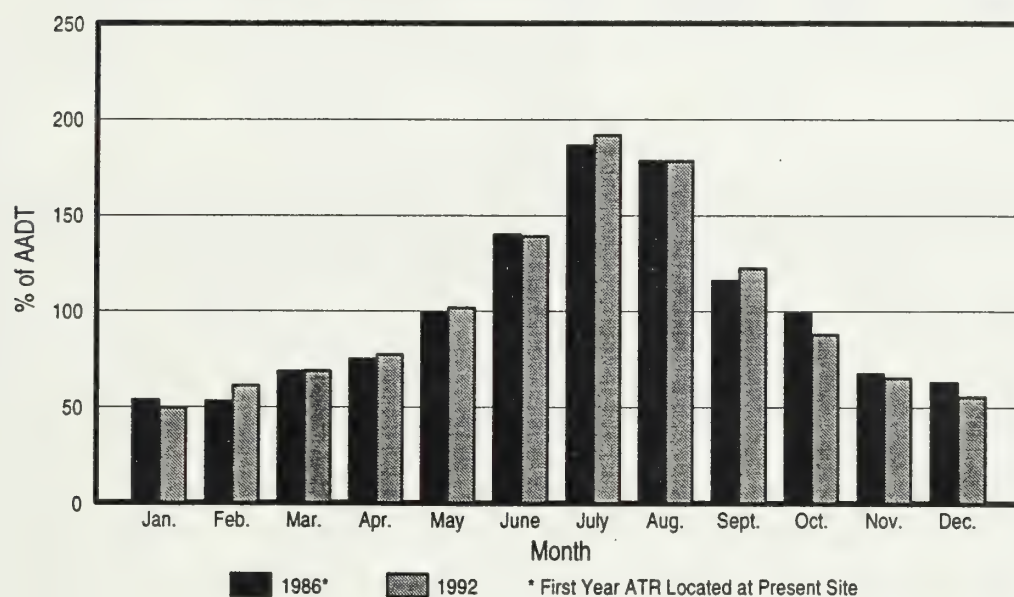
Figure II-1
Traffic Count Locations
And Current Annual Average
Daily Traffic (1992)

2. VARIATIONS IN TRAFFIC

Traffic volume information from the ATR can identify monthly, daily, and hourly variations in traffic volumes. The following narrative describes these variations **in traffic volumes within the corridor**.

Monthly Variations in Traffic - **FIGURE II-2** shows the variation in traffic at Station A-60 by month for 1992. The highest traffic of the year occurs in July. Conversely, the least travel occurs in January. **During 1992, the average daily traffic volume for the month of July was nearly double that of the average annual daily traffic volume at ATR Station A-60. During January, the average daily traffic volume for the month was only about half of the annual average daily traffic volume at this recording station.**

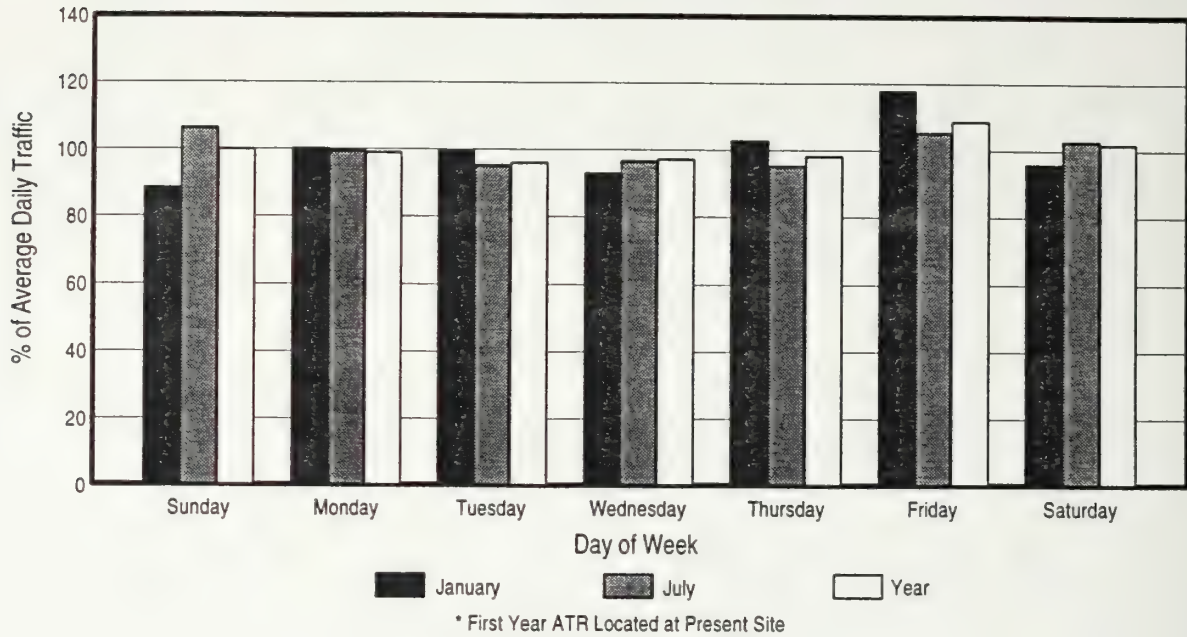
Figure II-2 - Monthly Variations in Traffic at Counter Sta. A-60



Daily Variations in Traffic - **FIGURE II-3** presents daily variations in traffic at Station A-60. The figure clearly shows Fridays as being the highest travel day of the week. **During 1992, the average daily traffic volumes on Friday was about 9% higher than the average traffic volume for all weekdays.** The lowest travel day of the week typically occurs on Tuesdays. **The highest daily traffic volume at the ATR during 1992 was 12,253 recorded on August 1. The lowest daily traffic volume during 1992 was 1,257 recorded on December 27.**

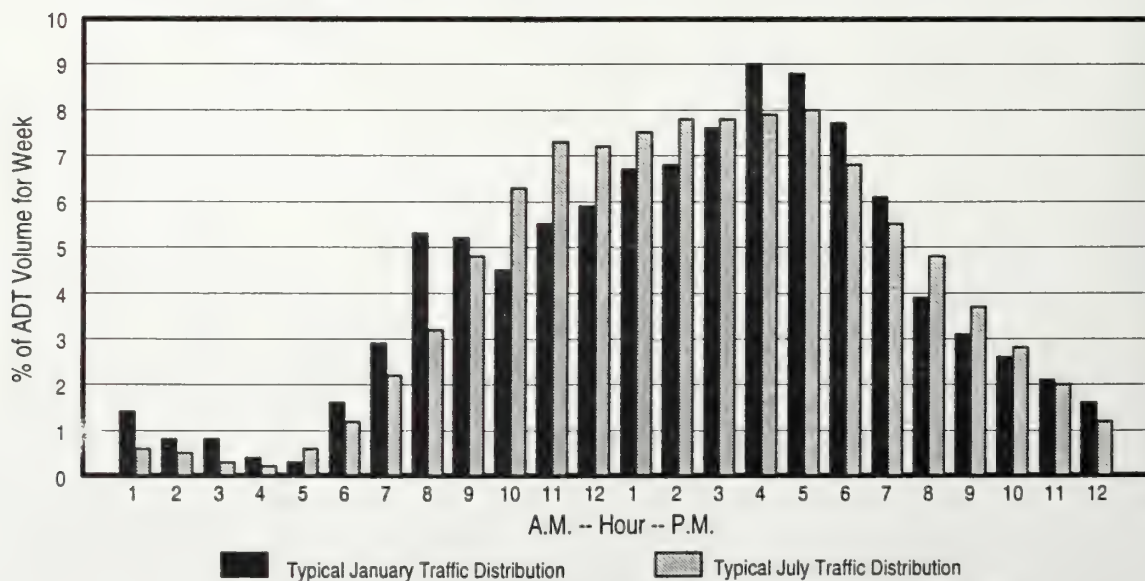
The highest traffic volumes during peak summer months (June, July, and August) typically occurs on Fridays, Saturdays, and Sundays. High weekend traffic reflects the recreational use of this route. Traffic during January, the month with the least travel, is highest on weekdays and lowest on weekends. **These higher weekday traffic volumes suggests use by commuters.**

Figure II-3 - Typical Daily Variations in Traffic For ATR Sta. A-60



Hourly Variations in Traffic - **FIGURE II-4** shows the typical variations in daily traffic by hour at ATR Station A-60. The graph presents data for a week-long period during the high and low travel months of the year. January traffic shows well defined peaks from 8:00 to 9:00 a.m. and from 4:00 to 6:00 p.m. Peak travel hours during July occur from about 10:00 a.m. to 6:00 p.m. **The highest hourly volume recorded in 1992 was 1,046 and occurred between 4:00 and 5:00 p.m. on July 5.**

Figure II-4 - Typical Hourly Variations in Traffic For ATR Sta. A-60*



Based on Detailed Analysis of Hourly Traffic Volume Data For One Week Each In January & July, 1989.

3. COMPOSITION OF TRAFFIC

Several times each year, information **is collected** on vehicle classifications and turning movements in Columbia Heights. An analysis of classification data (more than 51,000 vehicle observations) gathered over four years helped determine the typical composition of traffic in the project area. **TABLE II-1** contains the results of the traffic composition analysis. **To verify current vehicle classification statistics for the corridor, a count taken during April, 1993 is also presented in the table. The new data suggests that the traffic stream may consist of slightly higher percentages of passenger cars, pickups, and vans than in past years. It should be noted that the 1993 data is based on less than 5,000 vehicle observations. Therefore, the vehicle classification data based on more than 51,000 observations over four different years is believed to best represent the composition of traffic in the corridor.**

Please note that the vehicle classifications presented below correspond to the manual count summary sheets. The classifications for RV's, trucks, and buses represent the combined percentages for all vehicles considered in the more general vehicle groups.

The proportion of recreational vehicles is larger during the summer than **the averages shown below**. A vehicle classification count performed in July, 1989 showed that RV's comprised 13.4% of all vehicles seen during the study period. During the peak travel months of 1989, RV's accounted for about 8.7% of the vehicles on US 2 in the project corridor (1).

**TABLE II-1
VEHICLE CLASSIFICATION SUMMARY**

Vehicle Type	% of Vehicles Observed	
	1986-1989	April, 1993
Passenger Cars	52.8	59.1
Pickups & Vans	34.8	29.7
Motorcycles	0.8	0.3
RV's	4.3	5.0
Single Unit Trucks	4.4	3.2
Tractor Semi-trailer	1.5	1.9
Truck Full Trailer	0.8	0.4
3 Unit Combination	0.1	0.2
Buses	0.5	0.2

4. DIRECTIONAL DISTRIBUTION AND TURNING MOVEMENTS

Directional Distribution - Directional distribution studies **were performed** 12 times at the ATR location during the 1986 through 1989 period. These studies showed that the directional distribution of traffic varies markedly by season. During peak summer months, eastbound traffic dominates (about 55% of the traffic). Traffic flows during the rest of the year were evenly split by direction or became predominantly westbound (52% - 55% of the observed traffic).

Turning Movements - Turning movement data **was collected** at the intersection of US 2/FAS 206 on four occasions during 1988 and once in 1989. The intersection's configuration requires eastbound traffic on US 2 to stop. Motorists on US 2 must turn left to continue to Hungry Horse or turn right to proceed on FAS 206. Approaching traffic on FAS 206 must turn left toward Columbia Falls or continue straight ahead to Hungry Horse. A left turn lane and a right turn ramp facilitate turning movements from and to FAS 206.

Through traffic between Columbia Falls and Hungry Horse dominates all vehicle movements at the intersection. About 20% of the westbound traffic and 25% of the eastbound traffic left US 2 during the 1988 and 1989 counts. **Turning movement data collected during April, 1993 verified this trend.** These movements remained relatively constant throughout the year.

Studies show that the amount of traffic leaving FAS 206 and proceeding eastbound on US 2 increased during peak summer months. Left turns from FAS 206 onto US 2 (toward Columbia Falls) were the primary movement during the remainder of the year.

5. TRAFFIC PROJECTIONS FOR THE CORRIDOR

Historical traffic data from the ATR installed in the corridor (1986-present) and from the ATR when it was located between Hungry Horse and Martin City (1982-85) show that annual average daily traffic volumes in 1992 are more than 60 percent higher than those recorded in 1982. This increase represents a simple increase in average annual daily traffic volumes of about 5.2% per year during the past eleven years. The traffic volume data recorded at the ATR provides essential information for projecting future traffic volumes in the corridor.

Traffic for Station A-60 can be projected through the use of regression analysis to analyze the linear relationship between historical traffic volume data points for the count location. One type of regression analysis, the method of least squares, **was used** to develop a mathematical representation of the best trend line for estimating future traffic volumes. The results of the "least squares" computations for the permanent counter and historical data points are presented in **FIGURE II-5** and **TABLE II-2**. The standard deviation from the mean for these data points is 435 vehicles.

Figure II-5 - Estimated Average Daily Traffic Through Year 2010

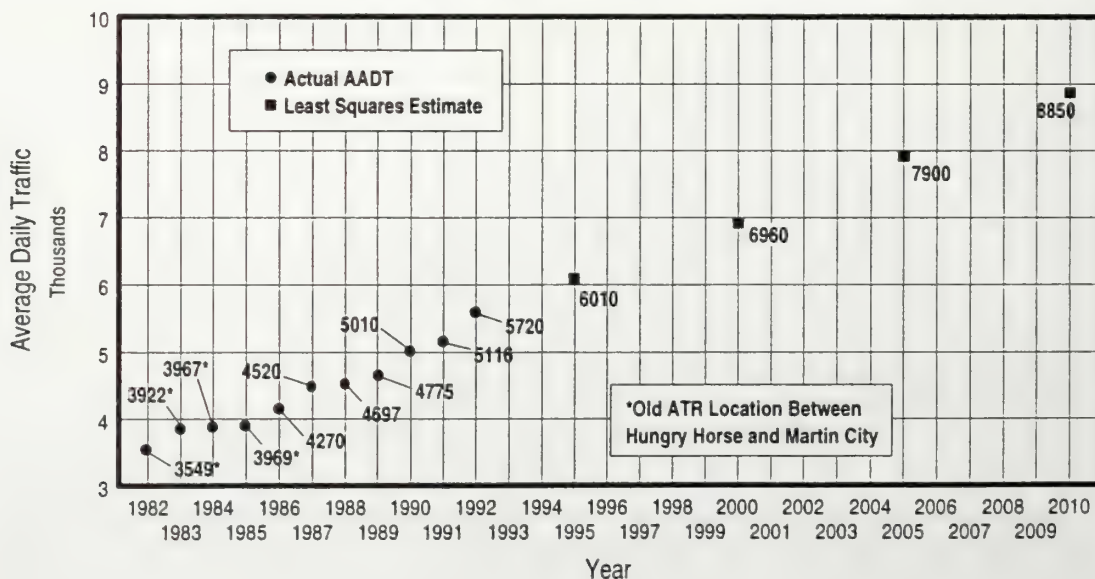


FIGURE II-6 shows design year traffic volumes for other count locations in and near the project corridor. Regression analysis, based on historical traffic volume data, was used to project future traffic volumes at other individual count locations in and near the corridor.

Note that the future traffic volumes for the count stations presented in the Draft EIS were estimated by applying a projected overall growth rate, similar to the rate determined for the ATR, to current traffic volumes. For the Final EIS, the method of least squares (used to project future traffic volumes at the ATR) was used to project traffic at other count locations in the project area. This ensures consistency between projections for each station since the methodology considers the historical variations in traffic volumes at each count location.

**TABLE II-2
AVERAGE DAILY TRAFFIC PROJECTIONS FOR
ATR STATION A-60**

1989	1990	1991	1992	1995	2000	2005	2010
4775*	5010*	5116*	5720*	6010	6960	7900	8850

* Actual Annual Average Daily Traffic (AADT) for Station A-60.

6. DESIGN HOURLY VOLUME

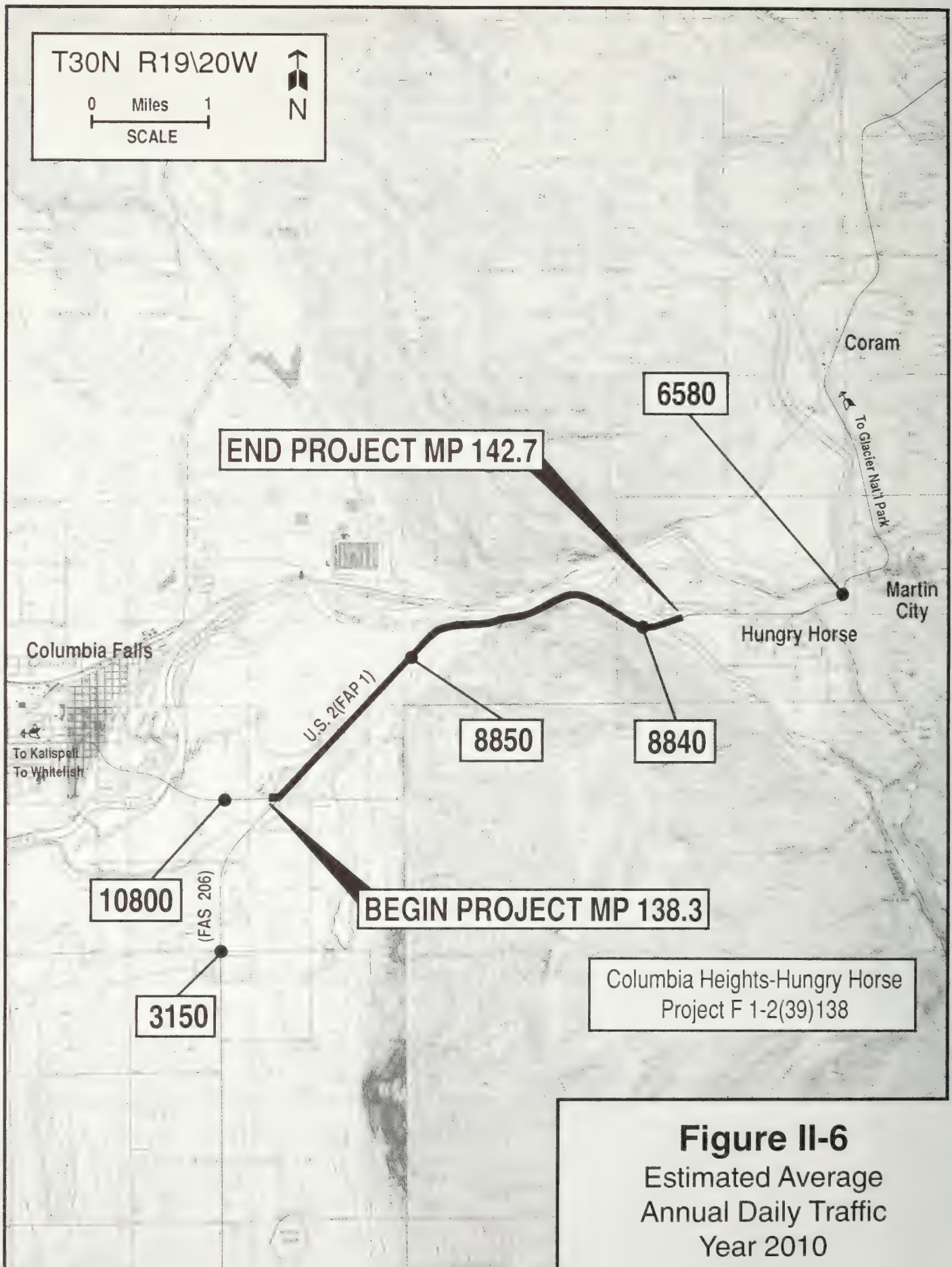
Highway designs must accommodate the traffic expected to use the facility at some time in the future, commonly 20 years. A design hourly volume (DHV), often the 30th highest hourly volume of the year (30HV), represents the most important traffic volume considered by highway designers. The DHV provides guidance for road designers about the necessary geometric features needed for the new facility.

AASHTO indicates that it is the accepted engineering practice to use the 30HV for the design of highway improvements for rural roads (2). This design value typically varies little from year to year in spite of significant changes in ADT that may occur. Many other transportation agencies across the country adhere to the strict usage of the 30HV for highway design purposes.

The traffic data for ATR Station A-60 shows that the 30HV during **1992 was 945 (3). This hourly volume represented 16.5% of the annual average daily traffic volume at this count location.**

An important design calculation relates the peak hourly traffic volumes to the ADT. This ratio, known as the K-factor, most often compares the 30HV of the year to the ADT. The K-factor for the most recent year **(1992) at Station A-60 was 0.165**. Computations show that the average K-factor for the past five years at this station was **0.1708. This value was used to evaluate the current level of service provided by the alternatives under consideration.**

The method of least squares was also used to determine the K-factor for the design year at Station A-60. Based on **eleven** years of data, this analysis determined that the K-factor for the design year is **0.1714**. By applying the average K-factor to the projected design year traffic volume at Station A-60, the calculated 30HV value is **1517. This value was used to evaluate the future level of service provided by the alternatives under consideration for the proposed action.**



C. Alternatives Initially Considered

The alternatives initially considered for the proposed action included no-action, transportation system management (TSM) actions, mass transit, alternate locations for the highway, and specific road design options. The alternatives considered were based on road designs **for other US 2 reconstruction projects in the vicinity**, accepted **highway** design standards **for rural arterials**, and **design suggestions included with** comments received during scoping activities.

1. NO-ACTION ALTERNATIVE

Environmental regulations require that no action be evaluated as a reasonable alternative for the proposed action. The no-action alternative would not change the 24-foot-wide, two-lane highway or the two-lane bridge that exist within the project corridor. This alternative includes short-term minor restoration activities (safety and maintenance improvements) that are needed to continue the use of the existing facilities.

2. TRANSPORTATION SYSTEM MANAGEMENT (TSM) ALTERNATIVE

The TSM alternative includes limited construction activities which maximize the efficiency of the existing system. TSM options cover a variety of physical, operational, regulatory and managerial actions that can be quickly and cheaply designed and implemented to improve the use and performance of transportation facilities. **This alternative is usually relevant for major projects proposed in urbanized areas with populations exceeding 200,000. However, the concept of achieving maximum use of existing facilities received consideration for this proposed action.**

The underlying transportation deficiency in this section of the US 2 corridor is **the existing roadway's inability to safely and efficiently accommodate present traffic volumes during peak travel periods. Increases in traffic volumes will cause the existing facility to operate at an unacceptable level of service more frequently through the foreseeable future. Strategies that would maximize use of the existing facility or increase its capacity include:**

- adding capacity to the facility by providing new lanes,
- controlling access or adding two-way left turn lanes,
- encouraging **travelers to ride-share, and**
- encouraging travel at less congested times.

3. MASS TRANSIT

Mass transit options received initial consideration as an alternative for this project. **Such an alternative assumes that the present roadway would remain in place to serve existing land uses but mass transit systems (bus or rail services) would be provided to handle as much existing and projected traffic as possible. The provision of mass transit systems could help alleviate congestion on the existing facility by reducing the number of vehicle trips within the project area. In addition to reducing the number of vehicle trips in the project area, a mass transit alternative would avoid the environmental impacts associated with constructing a new road.**

4. ALTERNATE ROUTES

This alternative includes measures that would reduce the travel demands on US 2 by promoting shifts of existing and future traffic to other routes. Two alternate routes, shown on FIGURE II-7, could be used instead of US 2 to travel from Columbia Falls to West Glacier.

One alternate route follows Federal Aid Secondary Route 486 (FAS 486) from Columbia Falls and

extends to the north for some 9.6 miles to the junction of the Blankenship Bridge Road. The route then continues north for 13 miles via Forest Highway 61, located along the west side of the North Fork of the Flathead River, to the Camas Creek Entrance of Glacier National Park. The route then extends southeasterly for 13 miles from the Camas Creek Entrance to US 2 at West Glacier. The total length of this alternate route is approximately 36 miles. About 25 of the 36 total miles on this route are paved. The Camas Creek Road in Glacier National Park is closed during the winter.

The other alternate route also follows FAS 486 from Columbia Falls to the Blankenship Bridge Road. The route then extends easterly along Blankenship Bridge Road for some 6 miles before joining US 2 south of West Glacier. Approximately 10 miles of the 15.6 mile-long route are paved.

5. BUILD ALTERNATIVES

Location Alternatives - The alternatives considered for the proposed action also include improving US 2 within its existing highway corridor and reconstructing the highway on a new location. The environmental impacts of the proposed action will vary depending upon the location of the highway in the project area. **A road built on a new location in an area previously unaffected by construction is likely to produce greater environmental impacts than a project that reconstructed the road within its existing corridor.**

Inherent with the consideration of **some** location alternatives **identified below** is the modification or replacement of the existing bridge over the South Fork of the Flathead. **If the proposed highway is built on a new location or its alignment within the existing highway corridor changes, a new bridge must be provided.** If the highway were improved following the existing alignment, the bridge could be modified or reconstructed in-place.

The location alternatives considered for the proposed action included:

- Construct the Road on an Entirely New Route
- Reconstruct the Road Following the Existing Horizontal and Vertical Alignment
- Improve the Alignment Within the Existing Highway Corridor
- Other Location Alternatives

These location alternatives are discussed in the following paragraphs.

CONSTRUCT THE ROAD ON AN ENTIRELY NEW ROUTE

This location alternative would construct US 2 along an entirely new route between Columbia Heights and Hungry Horse. Such an alternative would require that the highway be reconstructed on the north side of the Flathead River or some distance south of the existing highway. A new route located north of the Flathead River would cross the steep terrain of Teakettle Mountain, encounter an existing railroad line, and would likely require more than one new crossing of the Flathead River. A new route to the south of the existing highway corridor, would pass through the steep terrain of Columbia Mountain and require a new bridge across the South Fork of the Flathead River.

RECONSTRUCT THE ROAD FOLLOWING THE EXISTING ALIGNMENT

This alternative would construct a new highway along the same alignment as the existing facility. The alternative would provide a wider roadway, but it would not change the hori-

Approximate Distance From Columbia Falls to West Glacier Via:

➡ US 2 = 17 miles

➡ FAS 486/Forest Highway 61/Camas Road = 36 miles

➡ FAS 486/Blankenship Bridge Road/US 2 = 17.6 miles

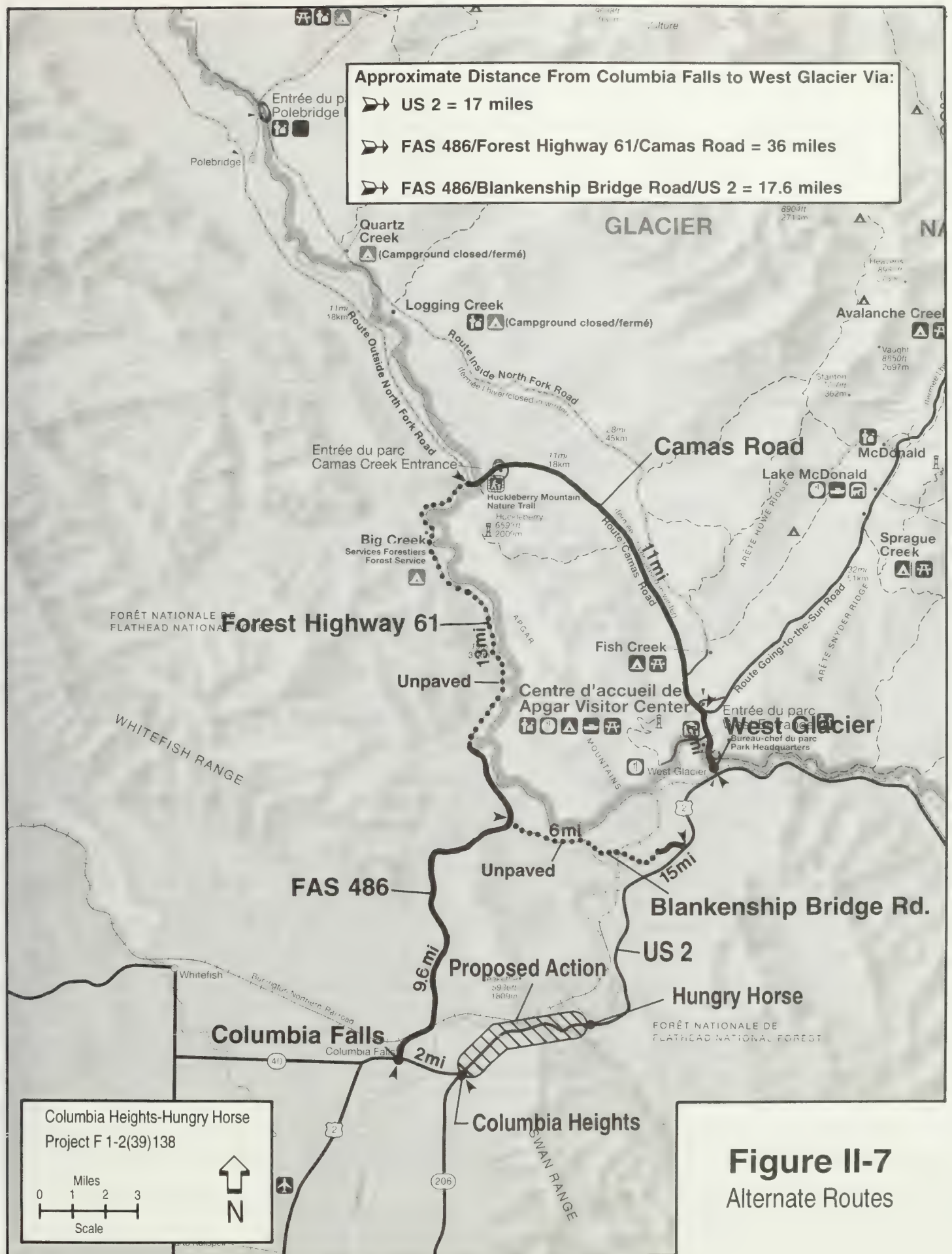


Figure II-7
Alternate Routes

zontal and vertical curves that presently exist in the corridor.

IMPROVE THE ALIGNMENT WITHIN THE EXISTING HIGHWAY CORRIDOR

This alternative would modify the horizontal and vertical alignments of US 2 to meet the geometric standards for a 60 mph design speed. The alternative would produce minor changes in the location of the highway. The work required to reconstruct the highway would generally happen within the existing highway corridor, however, variations from the existing alignment would occur where vertical and horizontal curves are modified to meet the sight distance requirements for the selected design speed. New right-of-way would be required where alignment shifts vary substantially from that of the existing highway.

Reconstruction of US 2 would generally follow the existing centerline from Columbia Heights to the House of Mystery. Minor variations from the existing alignment would occur between the House of Mystery and Hungry Horse where curves would be flattened. Three location options for US 2 in Badrock Canyon were identified for the EIS. These options included:

- an alignment to avoid or minimize the placement of fill in the Flathead River;
- an alignment to avoid or minimize impacts on Berne Memorial Park; and
- an alignment to minimize the impacts to the river and the park.

The alignment variations considered for US 2 in Badrock Canyon are shown in FIGURE II-8.

OTHER LOCATION ALTERNATIVES

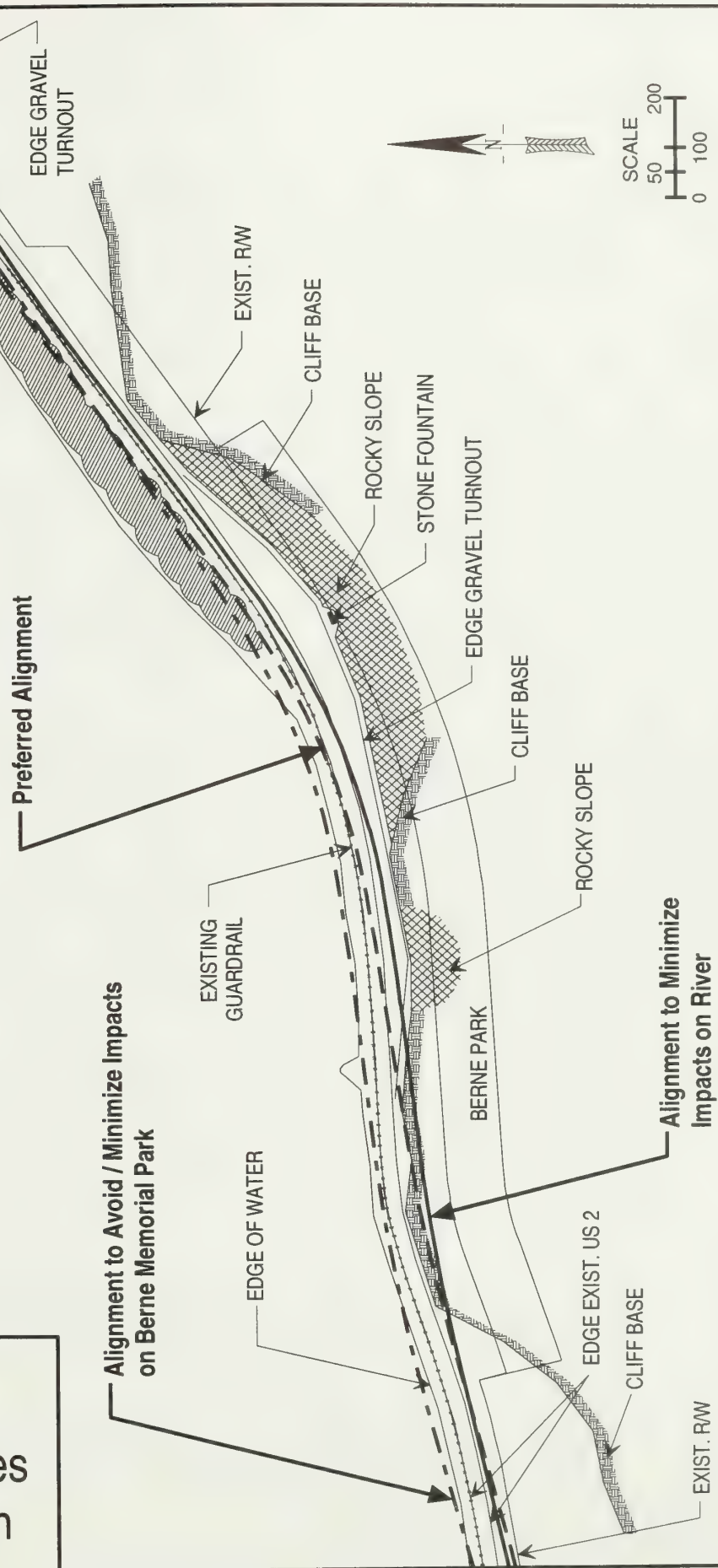
Scoping comments identified several other location options for US 2 in Badrock Canyon including the construction of a tunnel, the development of US 2 as a tiered roadway, and building US 2 on piers in the Flathead River. Additional discussion of these location alternatives follows.

Construct a Tunnel in Badrock Canyon - The idea of constructing a two-lane or four-lane tunnel through Badrock Canyon initially received consideration during the development of alternatives for the Draft EIS. Incorporating a tunnel was mentioned in written scoping comments on alternatives and in followup letters received before the publication of the Draft EIS. The Draft EIS addressed a tunnel as an alternative that had been considered but eliminated from consideration. Reasons for eliminating a tunnel cited in the Draft EIS included high construction costs, complex construction requirements, and impacts on the use of Berne Memorial Park. No cost estimate for a tunnel was developed or presented in the Draft EIS.

Following the circulation and review of the Draft EIS, comments were received from some members of the public indicating that an alternative incorporating a tunnel was not sufficiently addressed in the document. Comments also stated that such an option could reduce impacts to Berne Memorial Park and other features of Badrock Canyon. Therefore, the incorporation of a tunnel as a design option for this project has been further investigated. These investigations are on file in Helena.

Public comments on the Draft EIS suggested that a one-half mile-long tunnel could be built to accommodate the eastbound lanes of the four-lane highway designs. This would allow

Figure II-8
Location Alternatives
In Badrock Canyon



the westbound lanes of US 2 to be reconstructed following an alignment similar to that of the existing highway.

Due to the terrain of the project area, it is likely that a tunnel to serve eastbound traffic would have to be longer than one-half mile as suggested by public comments. Investigations of potential alignments for a tunnel, suggest that the minimum length for such a facility would be closer to 3,750 feet. The maximum length of a tunnel, if the facility was constructed directly through Columbia Mountain, would be about 6,300 feet. FIGURE II-9 shows potential locations for a tunnel.

The following assumptions were made about including a tunnel in Badrock Canyon:

- The minimum length for a tunnel was assumed to be 3,750 feet, not 2,640 feet as suggested by public comments on the Draft EIS.
- The tunnel would be two-lanes wide and designed to accommodate the eastbound lanes of a four-lane facility. The tunnel would require a ventilation system to exhaust vehicle emissions.
- Hard-rock boring would be the excavation technique used for the facility. Tunneling could not be accomplished from the surface due to the limestone, dolomite, and argillite formations of Columbia Mountain. In general, hard-rock tunneling is less costly than using soft-earth methods.
- Costs for constructing the tunnel were estimated on a cost per lineal-foot basis. Overall construction cost totals for applicable tunnel projects in other states were used to estimate all costs associated with a tunnel (construction materials, labor, ventilation system, etc.) in Badrock Canyon.
- The costs estimated for a tunnel through Badrock Canyon strictly apply to the tunnel and do not include the costs of reconstructing the westbound travel lanes.
- Accommodating four travel lanes of US 2 in a tunnel would likely be accomplished by constructing separate, but parallel tunnels for the eastbound and westbound travel lanes.

Highway agencies in California, Colorado, Minnesota, and Washington were contacted to obtain information on the construction, design, and costs of tunneling associated with recent projects. The cost information provided by other highway agencies was reviewed to determine an appropriate estimate for providing a tunnel with US 2 reconstruction between Columbia Heights and Hungry Horse. Based on this information, the low estimate was \$12,400/lineal foot and the high estimate was \$18,200/lineal foot for tunnels capable of housing two travel lanes.

Some public comments received on the Draft EIS recommended that a portion of a 230-kV electric transmission line proposed for reconstruction by the Bonneville Power Administration (BPA), be placed within the highway tunnel. This would eliminate the support towers for the lines that exist in the cliffs above US 2 in Badrock Canyon.

Contacts with the BPA indicated that it is technically feasible to place the 230-kV electrical transmission lines underground or in a tunnel. Such an alternative would also require that "mini" substations be constructed at either end of the buried section of transmission line

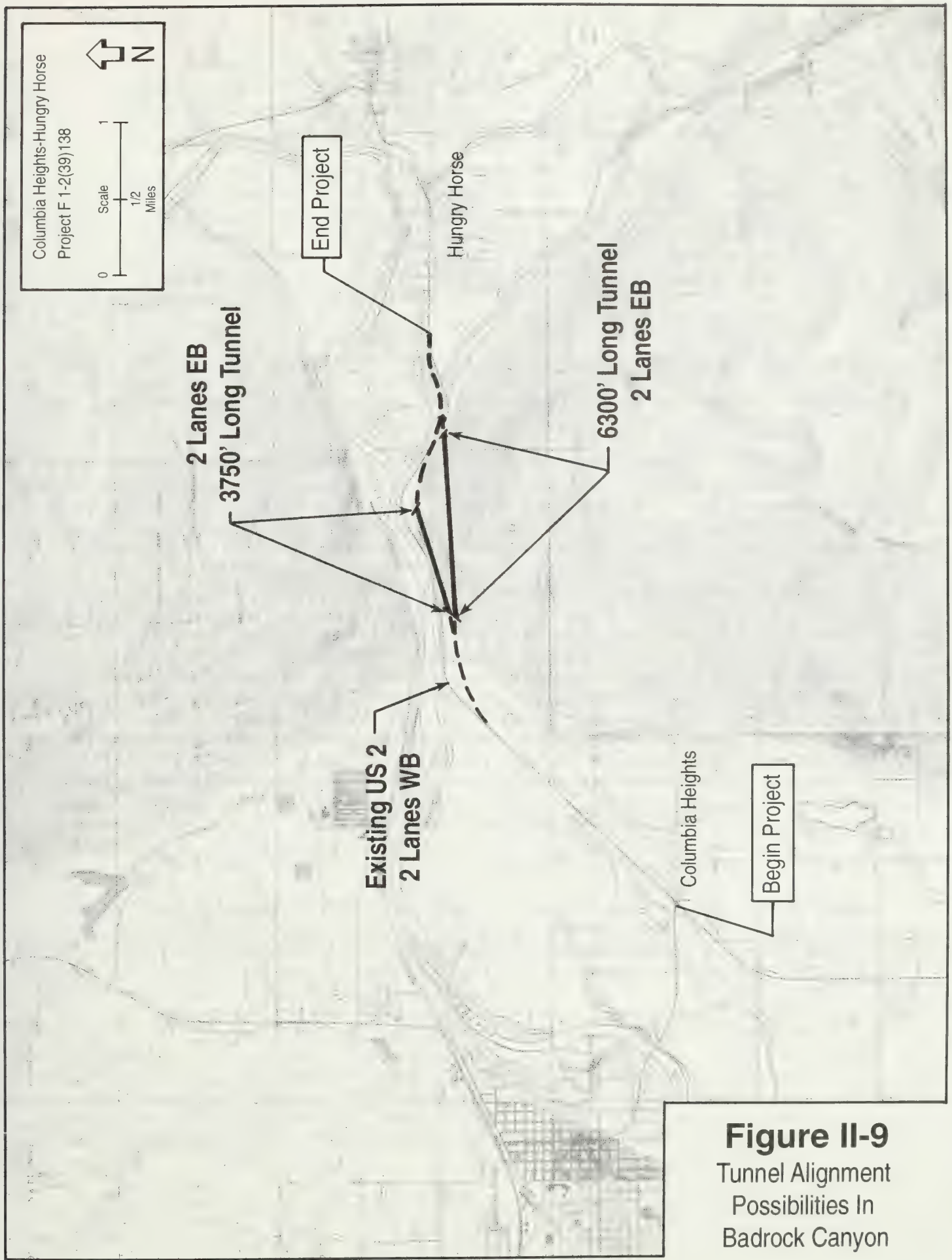


Figure II-9
Tunnel Alignment
Possibilities In
Badrock Canyon

to convert the electrical energy to voltages that can be readily transmitted. Based on "very rough" estimates provided by BPA, the minimum cost of placing the lines underground or in a tunnel through Badrock Canyon would be \$4.5 million.

In September, 1993, the BPA approved an Environmental Assessment and Finding of No Significant Impact (FONSI) which examined alternatives for rebuilding and relocating the Hungry Horse-Columbia Falls electrical transmission line and associated environmental impacts. The BPA's Environmental Assessment for the reconstruction project indicated that placing the transmission lines underground or within a tunnel for US 2 (should one be provided) was eliminated from consideration due to the excessive costs of such actions. Since the BPA's proposed project would not place the electrical transmission lines underground or in a tunnel, further consideration in this EIS is unnecessary.

Develop US 2 as a Grade-Separated Roadway in Badrock Canyon - Several comments received from the public during scoping activities suggested that if four-lanes are required for US 2, the new highway should be built as grade-separated roadway through Badrock Canyon. This would require that a structure be built to support two of the traffic lanes for US 2.

Close US 2 - A public comment made during scoping for the proposed action suggested that US 2 be closed entirely. Closure of the route would eliminate the need for a large amount of public funds to be spent and would minimize the likelihood of further environmental impacts due to road construction. The closure of the route would disrupt traffic flows on this element of the National Highway System.

Design Alternatives - Design alternatives refer to the various lane configurations and other features that would be developed with the proposed highway. The design alternatives initially identified for the proposed action were developed after reviewing the designs used for reconstruction projects on other nearby segments of US 2 and discussing design options with the FHWA and the public. Several four-lane road design configurations (an 88-foot wide four-lane and a 64-foot wide four-lane with 6-foot shoulders and a 4-foot median) were obvious since adjacent portions of US 2 were recently reconstructed as four-lane facilities. The terrain in Badrock Canyon, the proximity of the Flathead River, the presence of an important local park, cost considerations, and public expectations require that two-lane road configurations also be examined for this proposal.

Guidelines recommended by AASHTO and design standards contained in the *Geometric Design Standards* (1992) identify most of the features that must be included with the proposed development of this rural principal arterial highway. These sources also identify the size of traffic lanes, shoulders, or medians that are included with such highways.

APPENDIX 1 presents the design elements and controls that apply to two-lane and four-lane rural arterials. Based on these guidelines, four road design alternatives listed below were developed for the proposed action. These design alternatives were considered in addition to the designs used for adjacent reconstruction projects on US 2. These alternatives have been assigned numbers for convenient reference.

ALTERNATIVE 1: FOUR-LANE ROAD WITH MEDIAN/LEFT TURN LANE

The width of the roadway surface for this alternative would range from 78 feet in areas where a median/left turn lane is provided to 64 feet wide in other rural portions of the corridor. The typical features of the undivided four-lane sections of the alternative would consist of four 12-foot lanes and two 8-foot shoulders. A 14-foot median/left turn lane would be provided in appropriate locations.

ALTERNATIVE 2: FOUR-LANE ROAD WITHOUT MEDIAN/LEFT TURN LANE

This design would have a 64-foot-wide roadway surface that consists of four 12-foot lanes and two 8-foot shoulders. A median/left turn lane would not be included with this design.

ALTERNATIVE 3: TWO-LANE ROAD WITH MEDIAN/LEFT TURN LANE

The alternative would have a surface width ranging from 58 feet wide in areas where a median/left turn lane is provided to 44 feet wide in rural areas. The design would include two 12-foot lanes and two 10-foot shoulders. If necessary, a 14-foot median/left turn lane would be provided as necessary at major approaches in the corridor.

ALTERNATIVE 4: TWO-LANE ROAD WITHOUT MEDIAN/LEFT TURN LANE

This alternative would provide a 44-foot wide roadway surface consisting of two 12-foot lanes and two 10-foot shoulders. No median or left turn provisions would be considered in this design.

Design Modifications Considered for US 2 in Badrock Canyon - Due to steep terrain, the presence of a roadside park, and the proximity of the Flathead River in Badrock Canyon, building US 2 on some locations would require the placement of fill in and along the river. The extent of fill placed in the river channel would depend mainly on the location of the new road and the design of slopes adjacent to the road. Ratios are commonly used to describe the steepness of slopes and provide a means for comparing the horizontal dimension to the vertical dimension of the slope. Therefore, an embankment constructed to a 2:1 slope would have one foot of vertical rise for every two feet of horizontal distance. The use of embankments with 1.5:1 or 2:1 slopes faced with rock (riprap) is a typical design used for roadside areas next to surface waters.

Several other design approaches are possible to reduce or eliminate the placement of fill materials in the river. These approaches include:

- Using Steepened Embankments (1:1 Slopes)
- Using Vertical Retaining Walls
- Using Structures to Support Part of Road (Cantilevered or Bridge Support System)

These measures are discussed individually in the paragraphs below.

STEEPENED EMBANKMENTS

Reinforcement can be used to mechanically stabilize the embankments allowing for the construction of steeper fill slopes (up to 1:1). Geogrids, made of polymers, are placed between lifts of backfill material to create a structurally stable mass. The steepened embankment slopes can be designed to blend with existing ground contours and vegetated for erosion control and improved aesthetics. Riprap or a gabion mat (Reno mat) could be installed as a measure to control erosion where embankments encounter water.

FIGURE II-10 illustrates the typical components of a steepened slope employing geogrid material between successive lifts of backfill.

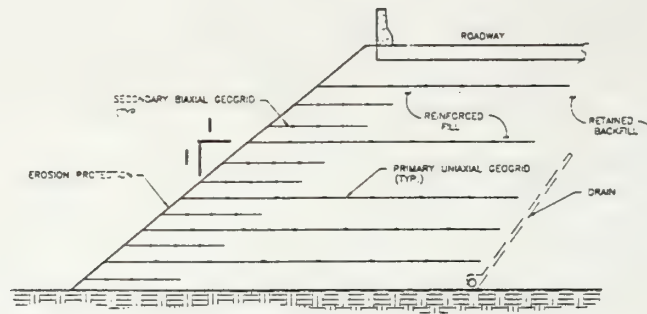


Figure II-10
Steepened Embankment

VERTICAL RETAINING WALLS

Several types of vertical walls to retain embankments and support the road are possible including: mechanically stabilizing the backfill and using gabion facing (see FIGURE II-11a) or precast facing panels (see FIGURE II-11b), gravity gabion walls (see FIGURE II-11c), and conventional cast-in-place reinforced concrete walls (see FIGURE II-11d). Retaining walls that employ reinforcing mesh to mechanically stabilize backfill placed behind the wall are commonly referred to as "reinforced earth", "retained earth" or "mechanically stabilized embankment" (MSE) walls.

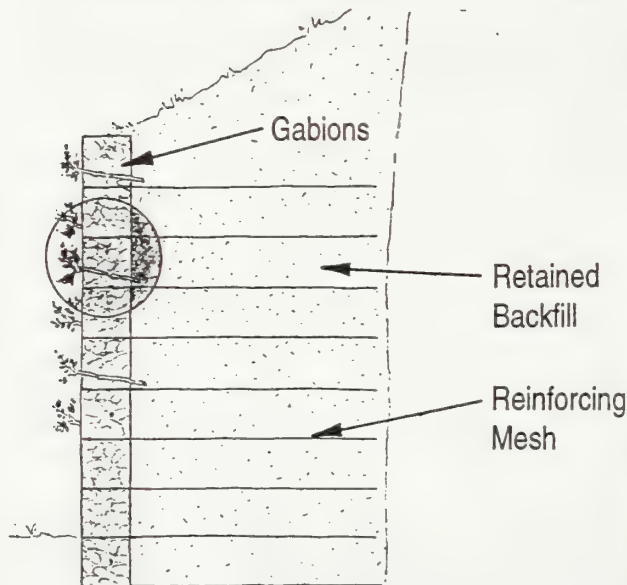


Figure II-11a
Vertical Retaining Wall
With Gabion Facing

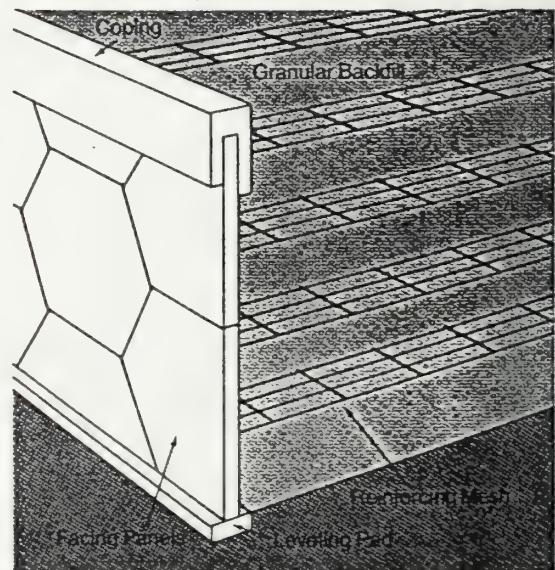


Figure II-11b
Vertical Retaining Wall
With Precast Facing Panels

Gravity type retaining walls rely upon the mass of the wall itself to hold retain backfilled material and typically do not include measures to reinforce the backfill. Such walls may be constructed of gabions, cast-in-place concrete, or metal or concrete cribs. FIGURE II-11 (c and d) show typical examples of gravity walls.

Figure II-11c
Gravity Gabion Wall

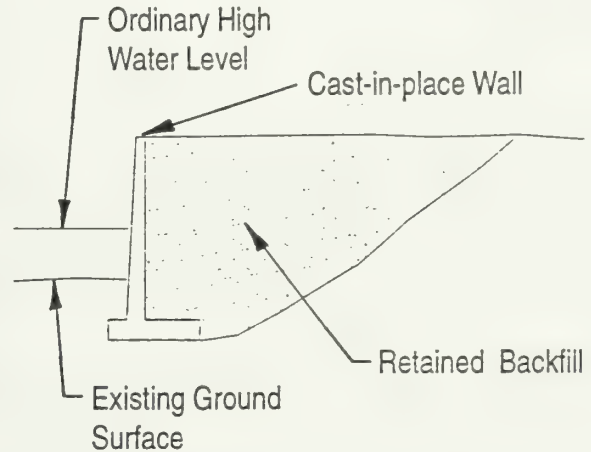
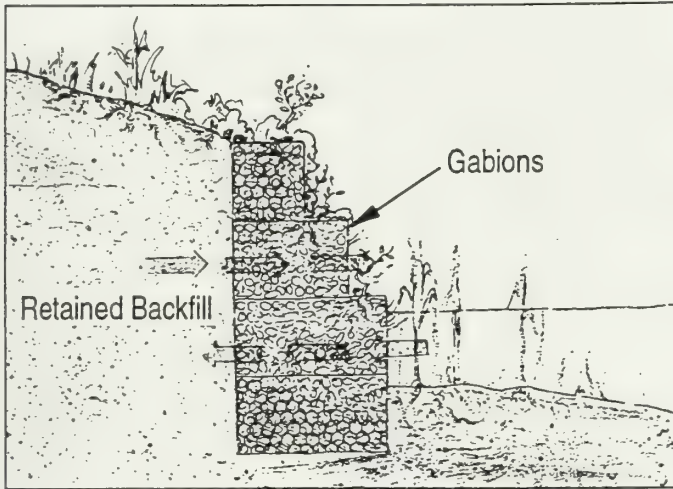


Figure II-11d
Cast-in-place, Reinforced
Concrete Retaining Wall

STRUCTURES

Fill embankments that would extend into the river channel could be replaced by a structure to support the roadway. This could be accomplished by employing piers to support a bridge superstructure and deck or by using cantilevered support structures, like the project at Goatlick on US 2 (see FIGURE II-12). Shafts would be drilled along the river bank to accommodate the construction of reinforced concrete piers supporting the roadway.

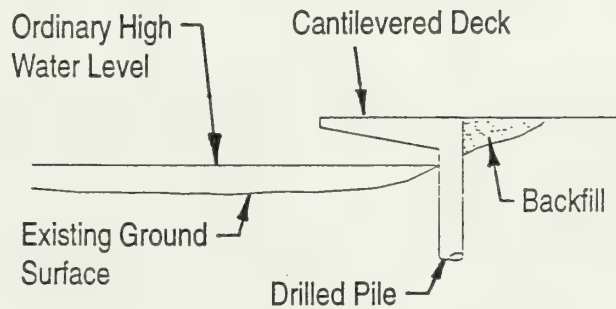


Figure II-12
Bridge Structure - Cantilevered Type

A total of ten design alternates for US 2 in Badrock Canyon were initially considered. These design alternates employed steepened embankments, vertical retaining walls, structures, or combinations of these elements. The alternates identified below address specific design modifications that could be implemented between Project Stations 590+00 and 620+00, the area directly opposite Berne

Memorial Park.

Alternate 1 - Use embankments and riprap-faced fill slopes as proposed in the Draft EIS.

Alternate 2 - Use steepened embankments only in areas where the fill would be placed below the ordinary high water mark. Riprap fill slopes as originally proposed in the Draft EIS would be used elsewhere.

Alternate 3 - Use a vertical retaining wall only in area where the fill would be placed below the ordinary high water mark. Riprap fill slopes as originally proposed in the Draft EIS would be used elsewhere.

Alternate 4 - Use steepened embankments along the entire length through Badrock Canyon.

Alternate 5 - Use a vertical retaining wall in the area where steepened embankments would encroach on the ordinary high water mark and use steepened embankments through the remainder of the area.

Alternate 6 - Use vertical retaining walls along the entire length through Badrock Canyon.

Alternate 7 - Use a 350-foot long structure in areas where the placement of fill would encroach on the ordinary high water mark. Construct a vertical retaining wall at each end of the structure and use steepened embankments along the remainder of the road segment.

Alternate 8 - Use a 350 foot-long bridge structure in places where a vertical retaining wall would encroach on the river and use vertical retaining walls along all the remainder of the road segment.

Alternate 9 - Use a 750 foot-long structure and steepened embankments along the remainder of the road segment.

Alternate 10 - Use a 750 foot-long structure and vertical retaining walls along all other segments of this road section.

Some of the alternates reduce the encroachment on the river channel, while others eliminate it entirely. Best engineering judgement was used to identify reasonable design alternates for this area. For example, although it is technically feasible to design and build a structure to support all of the roadway through the Canyon, the primary benefits of such a design alternate (reducing the encroachment and impacts on riparian vegetation) may be accomplished by other less expensive designs. The alternates identified for this study are those that provide notable reductions in the encroachment and that are reasonable to consider implementing with the proposed action.

Similar design measures were considered to reduce the minor encroachment on the Flathead River west of Fisherman's Rock included with the reconstruction proposals in the Draft EIS.

A complete report identifying the design alternates considered for US 2 in Badrock Canyon is on file in Helena.

D. Alternatives Eliminated from Consideration

1. TSM ALTERNATIVE

TSM alternatives were eliminated from consideration for this proposed action because many of the measures do not address **the** fundamental geometric deficiencies (substandard horizontal and vertical curves) of the existing facility **and its inability to provide an acceptable level of service throughout the foreseeable future**. Added capacity is needed throughout the corridor, not just in spot locations. Increasing the number of lanes to add capacity without improving other design features or geometrics would not be prudent.

During the most heavily traveled months, much of the traffic in the corridor is comprised of visitors **traveling through** the area. It is unrealistic to assume that transit, prearranged ride-sharing, or rescheduling visits for less congested times would meet the unique needs and itineraries of these facility users.

For the above reasons, **the TSM alternative is not** a reasonable alternative and **was** eliminated from further consideration.

2. MASS TRANSIT

No mass transit services, other than those offered by interstate passenger carriers, **presently exists** in the project area. **The mass transit alternative for the proposed action was eliminated from consideration because current and future land use densities in the project area would not provide sufficient ridership for a mass transit alternative**. Sufficient numbers of people who cannot provide their own transportation do not **reside in or near the project area for transit services to be economically implemented in** the corridor. The primary use of US 2 is for travel to destinations outside of the project area. Implementation of mass transit to serve only the corridor would not address the needs of most facility users.

Further, this alternative is not responsive to the project purpose and need as current safety and substandard geometric conditions would remain.

3. ALTERNATE ROUTES

The alternate routes identified previously in this Part are most responsive to the travel desires of motorists with destinations outside of the project area. Since the length of the alternate routes and the related travel times are much greater than if US 2 were used, it is unlikely that residents of the project area would elect to use such routes. Similarly, facility users wishing to travel on the shortest and most efficient travel route through the area would use US 2 instead of alternate routes.

The alternate route employing FAS 486, Forest Highway 61, and Camas Road in Glacier Park would require motorists traveling between Columbia Falls and West Glacier to drive 36 miles instead of 17 miles if US 2 were used. The distance of the route between Columbia Falls and West Glacier via FAS 486 and Blankenship Bridge Road is similar to that following US 2 between these points. However, using both routes would require that motorists travel over paved and unpaved roads that are designed to lower standards than that of US 2. Portions of the alternate routes have narrower road surfaces, sharp curves, and sight distance limitations.

The alternate routes are also not maintained to the same standards as US 2. The level of winter maintenance activities devoted to Forest Highway 61 and the Blankenship Bridge Road is considerably less than for US 2. Camas Road in Glacier National Park is closed during the winter months.

Because of the differences in mileage and travel conditions on alternate routes, it is unlikely that substantial reductions in traffic on US 2 could be realized. This alternative is not responsive to project purposes and needs because substandard geometric conditions would remain in the project corridor. Alternate routes would not effectively link or provide design continuity between previously reconstructed portions of US 2. For these reasons, this alternative was eliminated from further consideration in the EIS.

4. LOCATION ALTERNATIVES ELIMINATED FROM CONSIDERATION

Construction on an Entirely New Route - Constructing the highway on an alternate route is not a reasonable alternative because the environmental impacts of developing a new highway corridor would far exceed those associated with improving the existing alignment. Steep mountain terrain and/or sensitive wildlife habitat on **Teakettle and Columbia Mountains** would be encountered by **substantially** shifting the corridor to the north or south.

If the road's location were shifted to the north side of the Flathead River, two new crossings of the river would be required between Columbia Heights and Hungry Horse. Unless Hungry Horse were bypassed, a long bridge spanning the Middle Fork of the Flathead River would be required to provide access to the community. This crossing would lie within the floodplain of the Middle Fork of the Flathead River and would likely affect features associated with the Middle Fork Recreational River segment. Conflicts with Burlington Northern Railroad facilities would also occur if the road were to be constructed on the north side of the river.

If a new route were developed, the existing **section of US 2** would have to remain in service for businesses and local residents that currently use the facility. **Continued expenditures of labor and funds would be necessary to keep the old route in service.**

Reconstruction Following the Existing Horizontal and Vertical Alignment - This location alternative was eliminated from consideration because the existing alignment has both horizontal and vertical curves that do not meet the criteria for a 60 mph design. **Constructing a wider roadway and perpetuating substandard curves is not prudent.**

Alignment Options in Badrock Canyon - Two of the three alignment options identified for US 2 in Badrock Canyon were eliminated from consideration due to their potential impacts on the features of the Canyon and/or their high costs. Building a new road on an alignment to avoid or minimize the placement of fill in the Flathead River was eliminated because it would affect nearly all features of Berne Memorial Park and require that excavation of the eastern and western rock outcrops at the park. The spring and the parking area at the park would be completely eliminated with an alignment to avoid the river.

Likewise, building on an alignment to avoid the park was dropped from consideration because it would require extensive amounts of construction in the Flathead River. To totally avoid the park, the new road would have to be cantilevered above the river or built on piers in the river for at least 2,300 feet. Constructing US 2 on this alignment would remove substantial amounts of riparian vegetation and affect wetlands located in the floodplain. The total costs of building US 2 on such an alignment are estimated to be about \$29.6 million, at least two times higher than other build alternatives being considered for the proposed action.

Incorporating a Tunnel in Badrock Canyon - Based on the investigations of recent highway projects that included tunnels and the assumptions about building a tunnel in Badrock Canyon discussed earlier in this Part, the construction costs for a 3,750 foot-long tunnel are estimated to range from \$46.5 million to \$68.3 million. The costs for building tunnels to accommodate four travel lanes of

US 2 are estimated to range from \$93.0 million to \$136.6 million.

US 2 is part of the Interim National Highway System (NHS) designated under the provisions of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Excluding the Interstate System, the NHS consists of some 2,100 miles of principal arterial roads in Montana. Estimates place Montana's total apportionment of federal funds for the NHS at about \$36.2 million for 1993 and successive years covered by the legislation. The federal share of NHS-eligible projects is 86.58 percent. The State must provide the remainder of the funds for such projects. The estimated cost of a tunnel in Badrock Canyon is extraordinary, given the limited financial resources available to the State of Montana.

To appreciate the magnitude of a tunnel's cost, such a facility would require a commitment of funds equal nearly two years of Montana's total apportionment for the NHS. In another perspective, the costs of building a tunnel in Badrock Canyon would be roughly equal to the costs of completely reconstructing between 70 and 102 miles of typical rural two-lane road in Montana.

Applying these same correlations to the development of tunnels to accommodate both eastbound and westbound traffic, a commitment equal to more than three and one-half years of the total federal funding apportionment for the entire NHS would be necessary. The cost of twin tunnels would be roughly equivalent to the cost of totally reconstructing 140 to 204 miles of typical rural two-lane road in Montana.

Some members of the public, aware of the high costs of tunnels, suggested that tolls be charged for users of the tunnel as a means of paying for the facility. Calculations show that about 1.04 million eastbound vehicles passed through the project corridor during 1992. This figure is projected to increase to about 1.61 million vehicles annually by the design year. Assuming a toll of 50 cents per vehicle was established for the use of the tunnel, some \$522,000 would be generated each year based on current traffic volumes. With the projected traffic volume increases in the corridor, the annual revenue from the toll would be expected to increase to more than \$800,000 by the design year. If the tunnel in Badrock Canyon cost \$46.5 million and a toll for using the facility generated an average of \$650,000 each year through the design year, only \$11.7 million (about 25% of the initial construction cost) would be generated from a toll by the year 2010.

Several comments on the Draft EIS stated that providing a tunnel would be a way to avoid impacts to Berne Memorial Park and the Flathead River in Badrock Canyon. While a tunnel may reduce impacts by limiting the extent of construction in the vicinity of these features, there are concerns about other potential impacts resulting from such an action. It is conceivable that boring through a portion of Columbia Mountain could disrupt the flow of water at the spring in Berne Memorial Park. Note that this concern is raised without the benefit of detailed hydrogeological investigations about this water source.

Park users approaching from the west would be forced to drive to Hungry Horse and travel back to the park, unless an access road to the park is provided for eastbound motorists. A connecting road between the eastbound and westbound travel lanes or a separate one-way access route to the park for eastbound traffic would be needed to provide convenient access for all potential users of the park. A park access road would have to be provided at a location before motorists entered the tunnel or after they left the tunnel. Construction of such a road could itself be the source of major environmental impacts given the terrain and sensitive features of the Canyon.

Substandard geometric conditions are present along the existing alignment that would be used by westbound traffic. Modifying the existing alignment to address these substandard conditions may impact the rock outcrops at the park, affect other features of the park, or encroach on the Flathead

River or associated riparian areas.

For the reasons discussed above, including a tunnel with the reconstruction of US 2 through Badrock Canyon was eliminated from consideration. Clearly, the major funding commitment required to build a tunnel in Badrock Canyon is unreasonable in light of equally important needs for reconstructing other segments of the National Highway System in Montana.

Develop US 2 as a Grade-Separated Roadway in Badrock Canyon - The construction of a grade-separated roadway in Badrock Canyon was identified by the public as a measure that should be incorporated with the four-lane road designs in Badrock Canyon. This measure was suggested as a way to minimize or avoid impacts on the Flathead River and Berne Memorial Park by reducing the extent of road widening near these features. A structure would be used to elevate two travel lanes of the facility while the other travel lanes would be constructed beneath the structure.

This alternative would eliminate the use of the roadside park for motorists on the elevated section of the facility and would obstruct views for park users. The costs of building a grade-separated facility in Badrock Canyon would be considerably more expensive than those of a conventional highway due to the length of the structure, the structure's complex design which would incorporate multiple horizontal curves, and the structure's maintenance requirements. For these reasons, this alternative was eliminated from consideration.

Close US 2 - An alternative to close US 2 was eliminated from further consideration because it would disrupt traffic on an important segment of the state and national highway system. The highway is **the only continuous east-west route in northern Montana** and is one of the **few such routes** in the northern United States. **US 2 is part of the recently designated Interim National Highway System** created by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). **This designation attests to the important role the facility plays in the State and national surface transportation network.**

5. ROAD DESIGNS ELIMINATED FROM CONSIDERATION

Design Alternatives Eliminated from Consideration - Design standards for two-lane rural arterials with traffic characteristics similar to those on US 2 indicate that the minimum two-lane road should have two 12-foot lanes and two 10-foot shoulders for a total width of 44 feet. Therefore, road designs with typical sections less than the accepted minimum width of 44-feet are not reasonable alternatives for the proposed action and were eliminated from further consideration.

The 88-foot four-lane that exists immediately west of the project area included a 20-foot-wide median/left turn lane. AASHTO indicates that flush median widths of between 10 and 16 feet provide the optimum design for two-way left turn lanes (4). The operational and safety benefits provided by a 20-foot wide median/left turn lane were not substantially greater than those offered by an alternative which incorporates a 14-foot wide median/left turn lane. However, the costs and impacts (particularly in Columbia Heights and in Badrock Canyon) associated with construction of an 88-foot wide section would be substantially greater than the other four-lane designs considered in the EIS.

The 64-foot-wide four-lane that exists to the east of the project area included four 12-foot-wide travel lanes, a 4-foot wide painted median, and 6-foot wide shoulders. Providing shoulders less than 8 feet wide on a roadway with traffic volumes like that present on this portion of US 2 is not consistent with guidelines presented in AASHTO's *A Policy on Geometric Design of Highways and Streets* (5).

The two-lane highway designs, identified as Alternatives 3 and 4, are not reasonable alternatives for the

proposed action because they fail to meet critical aspects **of the purpose and need** described in Part I of the EIS. These two-lane alternatives were eliminated from consideration because the designs will not meet future operational requirements for the facility. **Even though Alternatives 3 and 4 are not reasonable alternatives for the proposed action, the costs, benefits, operational characteristics, and environmental impacts of these alternatives are discussed** in the EIS due to public expectations and to document that detailed analyses were completed for **each alternative**.

Design Modifications in Badrock Canyon Eliminated from Consideration - Design modifications for US 2 in Badrock Canyon were evaluated in a separate report (6). The purpose of this report was to identify design measures (slope treatments) that would reduce the encroachment on the Flathead River in Badrock Canyon. The report evaluated a total of ten design alternates for US 2 in Badrock Canyon using steepened embankments, vertical retaining walls, or structures and combinations of these features. The design alternates considered for US 2 in Badrock Canyon are identified below in TABLE II-3.

TABLE II-3 COMPARISON OF ALTERNATE DESIGN MEASURES FOR US 2 IN BADROCK CANYON		
Design Alternate	Estimated Additional Cost	% Reduction of Encroachment
1. Riprap Fill Slopes (Draft EIS Proposal)	N/A	N/A
2. Steepened Embankments and Riprap Fill Slopes	\$472,000	37%
3. Vertical Retaining Wall and Riprap Fill Slopes	\$420,000	78%
4. Steepened Embankments for Entire Length	\$665,700	37%
5. Vertical Retaining Walls and Steepened Embankments	\$606,900	78%
6. Vertical Retaining Wall for Entire Length	\$650,500	78%
7. 350' Long Structure, Vertical Retaining Walls, and Steepened Embankments	\$2,192,200	100%
8. 350' Long Structure and Vertical Retaining Walls	\$2,226,000	100%
9. 750' Long Structure, Vertical Retaining Walls, and Steepened Embankments	\$4,069,800	100%
10. 750' Long Structure and Vertical Retaining Walls	\$3,994,600	100%

TABLE II-3 presents estimates of the additional cost to the project if the design alternates were constructed instead of the riprap-faced embankments (Design Alternate 1) proposed in the Draft EIS. The table also compares the volume of fill that would be placed below the ordinary high water (encroachment) for the design alternates with the amount required by the riprap-faced embankments (Design Alternate 1) proposed in the Draft EIS. For example, the amount of fill

material that would be placed below the ordinary high water mark with Design Alternate 2 would be 37% less than that of the design proposed in the Draft EIS. A 100% reduction means that the measure would eliminate the encroachment entirely.

The report examining these design alternates considered hydraulic and floodplain effects, the impact on riparian vegetation, and the effects on visual resources, in addition to the cost and extent of the encroachment. These findings of the report are summarized below.

Each of the design alternates considered would reduce the amount of encroachment on the river as compared to the alternative proposed in the Draft EIS. Reducing the encroachment also decreases the potential for adverse hydraulic and floodplain effects. The alternates that eliminated the encroachment would have the least hydraulic and floodplain impacts.

Of the alternates considered, the construction of riprap-faced embankments as proposed in the Draft EIS (identified as Design Alternate 1 above) would impact riparian vegetation in Badrock Canyon to the greatest extent. This alternate would eliminate most riparian vegetation for more than 1,100 feet along the riverbank. Similar impacts would occur with Alternates 2 and 3 since the use of steepened embankments or a retaining wall would be included only where fill would be placed below the ordinary high water mark, an area where little vegetation presently exists.

Alternates with steepened embankments through the area of encroachment (Alternates 4, 5, 7, and 9) would reduce impacts to riparian vegetation. At best, the construction of steepened embankments would leave narrow (15-20 feet wide), isolated bands of vegetation through this area. The option would also remove most vegetation for about 550 feet along a portion of the riverbank.

Design alternates with a vertical retaining wall (Alternates 6, 8, and 10) would produce the least impact on the riparian vegetation that exists opposite Berne Memorial Park. A vertical retaining wall would leave isolated, but wider (20-30 feet) bands of vegetation and would remove most vegetation for about 400 feet of the bank area.

The structures associated with Alternates 7, 8, 9, and 10 span areas where open water exists or where little riparian vegetation exists.

The primary visual impact associated with any of the design alternates is the alteration of the riverbank area opposite Berne Memorial Park. As indicated above, each alternate would remove varying amounts of the riparian vegetation that exists in the area and most would include some construction in the Flathead River. Alternates incorporating vertical retaining walls would produce the least impact on the vegetation between the new roadway and the river.

Alternate 1 would remove the most vegetation and require the most construction in the river of the alternates examined. The resulting riverbank area would appear similar to the existing riverbank west of Fisherman's Rock where fill was placed with previous road construction. This area has steep banks with exposed rocks and little vegetation.

The report concluded that design alternates employing riprap-faced embankments (Alternates 1, 2, 3) and steepened embankments (Alternates 4 and 5) should be eliminated from further consideration due to the extent of encroachment and the impact on riparian vegetation. Alternates that incorporated structures and steepened embankments (Alternate 7 and 9) were also eliminated because their costs were substantially higher than other options and because of their adverse impacts on riparian vegetation.

Evaluations show that Design Alternates 6, 8, and 10 would minimize or eliminate the encroachment

in Badrock Canyon. This was not considered to be a substantial concern in this instance because calculations indicate that adverse hydraulic and floodplain effects are not likely to occur with the construction of any alternate. These alternates would impact riparian vegetation the least of the options considered and to the same extent. Although Alternates 8 and 10 would completely eliminate the encroachment, the costs of these options are 3.5 and 6 times higher than the cost of Alternate 6. Therefore, Alternates 8 and 10 were eliminated from consideration due to their higher costs.

Alternate 6, construction of a vertical retaining wall along the Flathead River, was ultimately recommended as the preferred slope design modification for US 2 in this part of Badrock Canyon.

E. Reasonable Alternatives

1. BUILD ALTERNATIVES

Reasonable Location Alternatives - The only reasonable location alternative for the proposed action is to **improve the Alignment Within the Existing Highway Corridor**. This alternative would modify the horizontal and vertical alignments of US 2 to meet geometric standards for a 60 mph design. The flattening of **substandard** horizontal curves near the House of Mystery and in Badrock Canyon and the construction of a bridge on a new location would cause shifts from the existing alignment. Additional right-of-way would be needed due to the **wider roadway surface provided by the build alternatives and changes to the alignment of the highway**.

The new roadway would be constructed on an alignment through Badrock Canyon designed to minimize the impacts on the Flathead River and associated riparian areas and to Berne Memorial Park.

Reasonable Design Alternatives - **Alternative 1 (Four-Lane Road with Median/Left Turn Lane) and Alternative 2 (Four-Lane Road without Median/Left Turn Lane)** were identified as reasonable design alternatives and will be evaluated further in the EIS. Although Alternatives 3 and 4 are not considered to be reasonable build alternatives, the costs and impacts associated with these alternatives will be presented throughout the EIS and compared with the reasonable alternatives advanced in this document.

Since the project corridor adjoins four-lane highways, all build alternatives would require transitions **to and from adjacent sections of US 2** at the beginning and end of this proposed action. An 88-foot four-lane highway, consisting of four 12-foot driving lanes, a 20-foot median, and two 10-foot shoulders, exists on US 2 immediately west of the project corridor. A 66-foot undivided four-lane highway was constructed through Hungry Horse at the east end of the corridor.

In Columbia Heights, an 82-foot wide four-lane road consisting of four 12-foot driving lanes, a 14-foot continuous, two-way left turn lane, and two 10-foot shoulders is proposed for **the transition area with all build alternatives**. A four-lane bridge across the South Fork and a four-lane highway into Hungry Horse would be provided with all build alternatives. **The undivided four-lane road across the bridge would be 66-feet wide to match the existing pavement section in Hungry Horse**. Therefore, the variation in the design of the build alternatives would occur between Columbia Heights and the new South Fork bridge.

The build alternatives for US 2 would also include a vertical retaining wall through Badrock Canyon. Due to cost and aesthetic considerations, a vertical retaining wall using mechanical stabilization combined with precast concrete facing panels or gabion facing is preferred over a conventional cast-in-place, reinforced concrete or a gravity gabion wall. The build alternatives would also eliminate the minor river encroachment to the west of Fisherman's Rock included with the design proposals contained in the Draft EIS. This encroachment would be eliminated through minor

modifications to the horizontal or vertical alignment of the new road or by constructing a steepened embankment using reinforced soil techniques.

Note that **efforts to acquire some right-of-way and other lands required by the build alternatives have been initiated in advance of the proposed action. These advance acquisition efforts were limited** to a parcel of land surrounding the House of Mystery, a parcel of land opposite the House of Mystery and west of Berne Road, and to private lands in Badrock Canyon. The acquisition of these parcels is being pursued as mitigation for the proposed action's effects on Berne Memorial Park and as a means of controlling incompatible development in a sensitive portion of the project corridor.

Further discussions of these proposals are contained in Parts IV and V of the EIS. A Categorical Exclusion examining the impacts of the advanced acquisition of land for this proposed action was approved by FHWA on September 4, 1990. **To date, a parcel of land adjacent to the House of Mystery and a parcel opposite the House of Mystery and west of Berne Road have been purchased. Attempts to acquire private lands in Badrock Canyon have been unsuccessful.**

Schematic layouts of the build alternatives for this proposed action are shown in **FIGURE II-13**. Drawings of typical roadway cross-sections for each alternative are compared with that of the existing highway in **FIGURE II-14**.

2. NO-ACTION

No action is a reasonable alternative that must be evaluated further in the EIS. This alternative is identified as **ALTERNATIVE 5** in this document.

The no-action alternative would not change the 24-foot-wide, two-lane highway that exists within the project corridor. The alternative would include the safety and maintenance improvements necessary to continue operating the existing facility. This alternative would not include construction of a new bridge over the South Fork.

This alternative is compared to the **build alternatives** in **FIGURE II-13**.

F. Estimated Costs of Alternatives

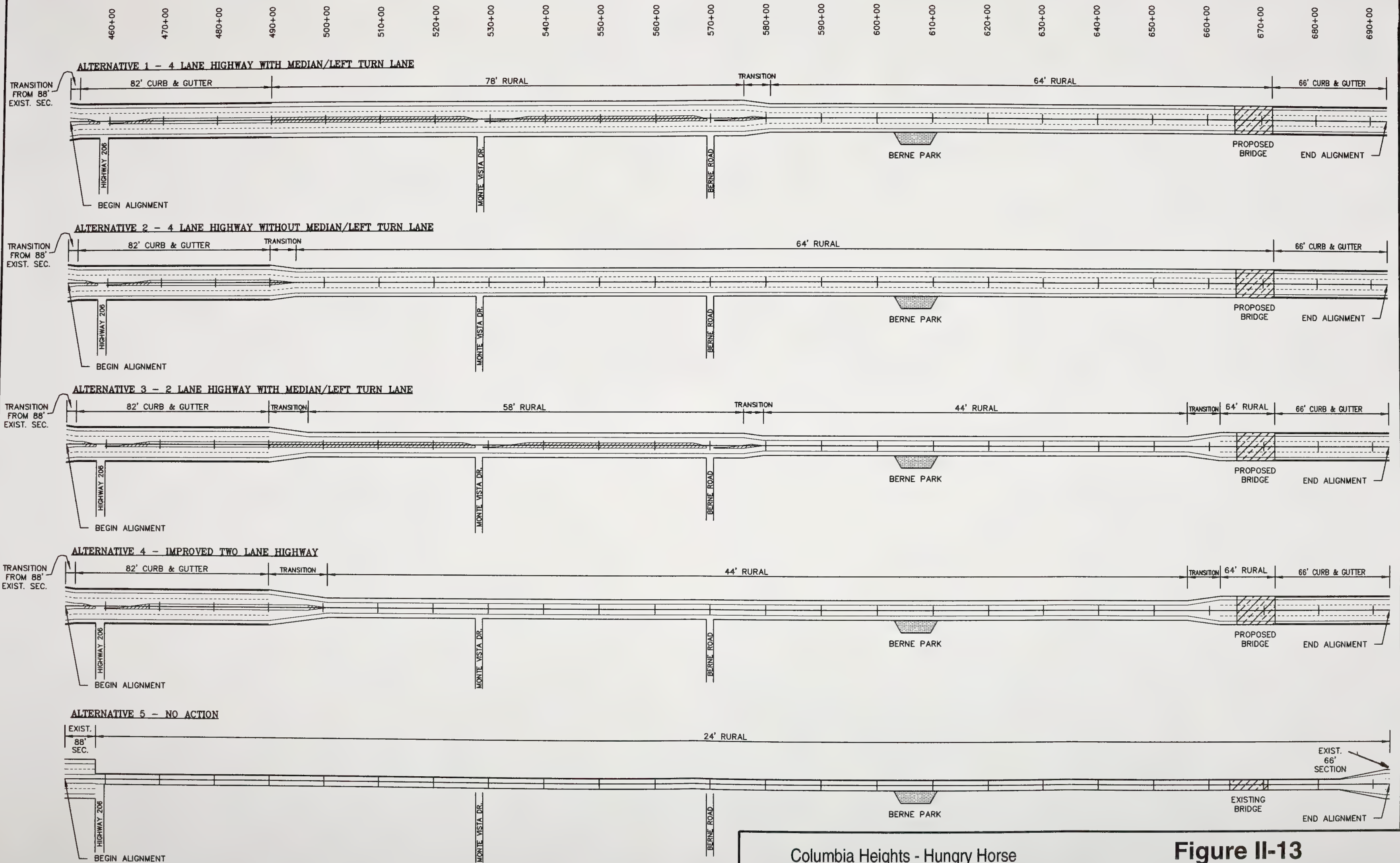
The following sections briefly describe the costs associated with each alternative evaluated in the EIS. The discussions summarize construction costs, annual maintenance costs, and life-cycle pavement maintenance costs for the alternatives. Detailed materials about the determination of these costs are contained in **APPENDIX 2**.

1. CONSTRUCTION COSTS

Detailed preliminary layouts for the build alternatives, based on the typical cross-sections shown in **FIGURE II-14** and on the geometric standards for a 60 mph highway design, were used to estimate the construction costs of each highway design. The layouts helped quantify the physical features, work items, construction limits, and right-of-way requirements associated with each alternative.

The following table summarizes all construction, right-of-way, and utility relocation costs for the build alternatives. The **construction costs** shown in **TABLE II-4** also contain estimates for **mobilization, traffic control**, engineering costs and contingencies associated with the proposed action.

Note that the cost estimates presented in the Draft EIS were updated to better reflect recent tabulations of items and work associated with road construction and current real estate values in



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Figure II-13
Schematic Layout of Alternatives

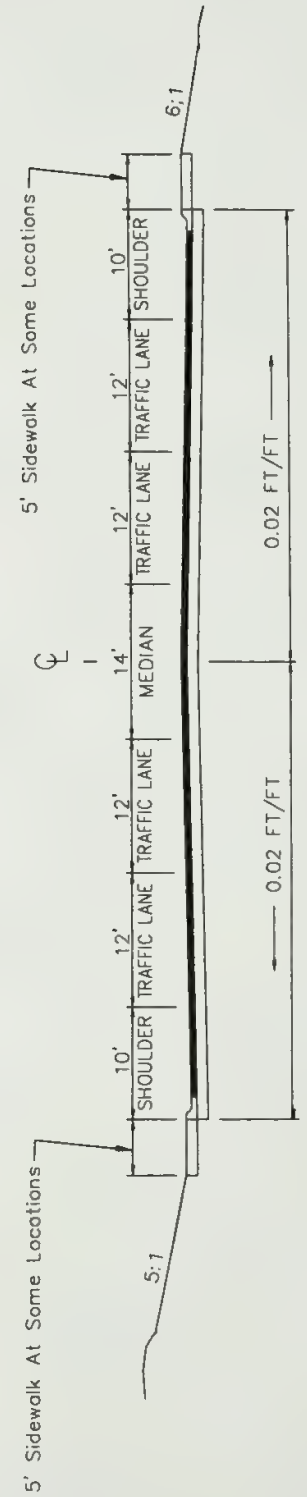
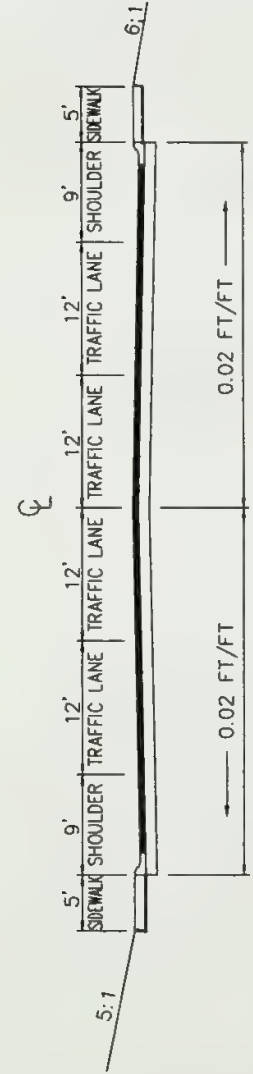
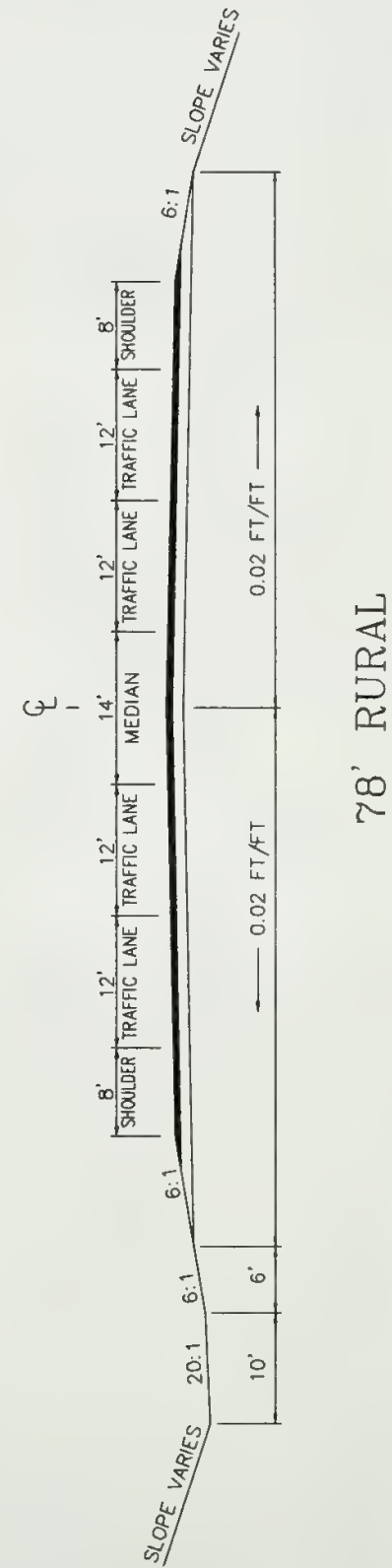
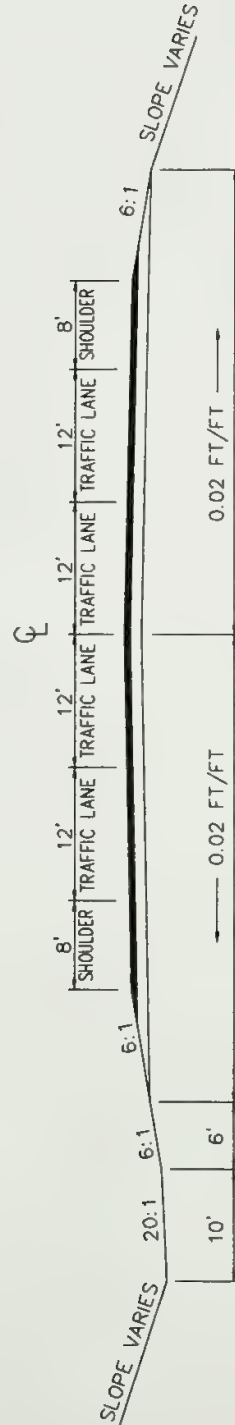
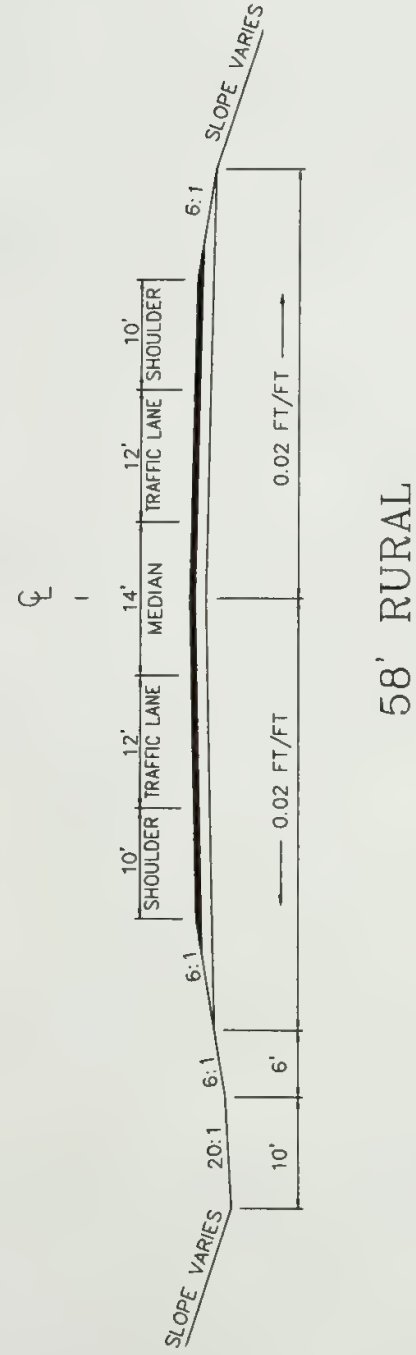
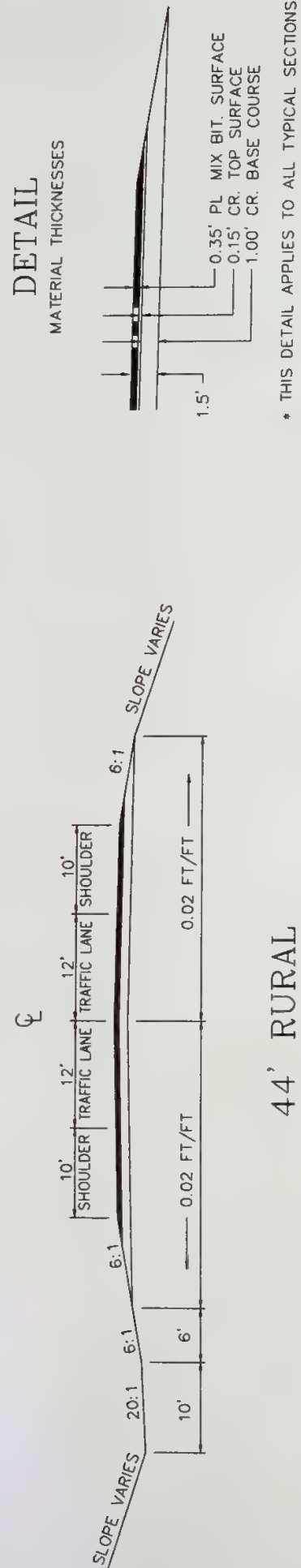


Figure II-14
Typical Sections for
Alternatives

the project corridor. The construction cost estimates for the build alternatives shown in TABLE II-4 were prepared according to procedures outlined in the *Montana Road Design Manual* (MDT, April 1994).

TABLE II-4 TOTAL CONSTRUCTION COSTS OF BUILD ALTERNATIVES				
Item	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Road Construction	\$5,002,800	\$4,777,400	\$4,348,400	\$4,383,600
Bridge Construction	4,020,300	4,020,300	4,020,300	4,020,300
SUBTOTAL	9,023,100	8,797,700	8,368,700	8,403,900
10% Mobilization	902,300	879,800	836,900	840,400
SUBTOTAL	9,925,400	9,677,500	9,205,600	9,244,300
5% Traffic Control	496,300	483,900	460,300	462,200
10% Construction Engineering	992,500	967,700	920,600	924,400
15% Contingency	1,488,800	1,451,700	1,380,900	1,386,600
SUBTOTAL	12,903,000	12,580,900	11,967,400	12,017,500
Right-of-Way Costs	880,200	786,400	714,000	706,600
Utility Costs	680,900	680,900	680,900	680,900
Total Cost	\$14,464,100	\$14,048,200	\$13,362,300	\$13,405,000

It is apparent from **TABLE II-4** that the total construction costs for the build alternatives do not vary substantially. The construction costs are similar for the following reasons:

- the build alternatives follow the same alignment;
- all build alternatives have similar designs through Columbia Heights and into Hungry Horse;
- a new four-lane bridge is common to each alternative; and
- the width of alternatives varies by only 20 feet and have similar roadside slope areas.

2. ANNUAL MAINTENANCE COSTS

Records kept by the **Maintenance Operations and Services Bureau** were reviewed to determine the costs various maintenance activities on the existing highway **during Fiscal Years 91, 92, and 93**. The records provided the actual costs for general road maintenance and winter maintenance activities on US 2 in and near the project corridor. **These costs are presented on a lane-mile (ln-mi) basis for comparing alternatives.** **TABLE II-5** presents annual maintenance cost estimates for each alternative.

Please note that the costs per lane-mile presented for road maintenance and winter maintenance

include an overhead factor of approximately 40% to account for salary additives and other indirect expenses incurred by the agency.

TABLE II-5 ESTIMATED ANNUAL MAINTENANCE COSTS BY ALTERNATIVE						
Alt.	LN-MI	Road Maintenance \$/LN-MI*	Winter Maintenance \$/LN-MI	Road Maintenance Cost/Year*	Winter Maintenance Cost/Year	Total Maintenance Cost/Year
1	20.63	\$1,420	\$1,095	\$29,290	\$22,590	\$51,880
2	19.00	\$1,420	\$1,095	\$26,980	\$20,800	\$47,780
3	14.58	\$1,420	\$1,095	\$20,700	\$15,970	\$36,670
4	13.22	\$1,420	\$1,095	\$18,770	\$14,480	\$33,250
5	11.80	\$1,420	\$1,460	\$16,760	\$17,230	\$33,990

* Does not include cost of winter maintenance activities.

3. LIFE-CYCLE PAVEMENT MAINTENANCE COSTS

Decreasing appropriations for road maintenance combined with inflation and rising costs for pavement rehabilitation have resulted in conditions where pavements often wear out faster than they can be repaired. Research indicates that roads deteriorate relatively slowly during the early years of their design life, but the rate of deterioration increases as they near the end of their design life. Proper maintenance and rehabilitation has been shown to lengthen the life of pavements, however, reconstruction will eventually be needed.

TABLE II-6 presents the estimated costs of preventative pavement maintenance activities for the build alternatives and for rehabilitating the pavement surface of the existing highway over a twenty year period. The costs shown for the no-action alternative are for activities necessary to maintain the pavement in a condition similar to that which currently exists. No widening or shoulder improvements would be incorporated into the projects.

TABLE II-6 PAVEMENT MAINTENANCE AND REHABILITATION COST ESTIMATES BY ALTERNATIVE	
Alternative Considered	Adjusted Cost of Pavement Maintenance
1	\$604,300
2	\$522,800
3	\$501,100
4	\$438,800
5 (No-Action)	\$415,500

G. Evaluation of the Operation and Benefits of Each Alternative

This section discusses how each alternative is expected to operate through the design year 2010. The primary measure of each alternatives operation is its ability to accommodate future traffic volumes in an acceptable manner. The traffic safety benefits provided by the build alternatives are also examined in the narrative. Finally, the overall benefits of each alternative are compared with its estimated cost to provide an indication of the cost-effectiveness of each design option.

1. LEVEL OF SERVICE (LOS) COMPARISON

Levels of service (LOS) are the different operating conditions which occur on a highway or specific segment of the highway when accommodating various traffic volumes. Factors affecting LOS include speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and indirectly, safety. LOS analyses provide a qualitative measurement of operational conditions within the traffic stream and their perception by motorists and/or passengers (7).

Levels of service for different types of facilities are based on factors describing the quality of operation on the facility. For two-lane highways, average travel speed (mph) and the time delay (%) are the primary measures of effectiveness. Density, in passenger cars per mile per lane, is the primary measure of effectiveness for multi-lane highways. The operating conditions of a traffic facility are measured on the basis of six levels of service, designated as LOS A through LOS F by the *Highway Capacity Manual* (HCM) (8). LOS A represents the best operating conditions and LOS F the worst.

The characteristics of service levels on rural highways under uninterrupted traffic flows are generally described in **TABLE III-7**. Specific definitions for these for two-lane and multi-lane rural highway service levels are contained in APPENDIX 3.

TABLE II-7
GENERAL LEVEL OF SERVICE DESCRIPTIONS

LOS A	Free flow operation with low volumes and densities. Drivers can maintain their desired speed with little or no delay and are unaffected by other vehicles. Minor disruptions in traffic flows are easily absorbed without causing delays or lines of cars.
LOS B	Stable traffic flows, but operating speeds begin to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speeds.
LOS C	Stable traffic flows, but speeds and maneuverability are more controlled by higher traffic volumes. Congestion caused by turning traffic and slower vehicles causes substantial deterioration in service.
LOS D	Traffic is approaching unstable flow, travel speeds are tolerable but considerably reduced by operating conditions. Drivers have little freedom to maneuver within the traffic stream.
LOS E	Describes operations at or near capacity and unstable flows. Travel speeds have been reduced to the point where momentary stoppages could occur. Massive platooning occurs when slower vehicles or interruptions are encountered. Traffic volumes are approaching the capacity of the facility, and there are no usual gaps in traffic.
LOS F	Corresponds to forced flow conditions. Travel speeds are low and stoppages may occur for short or long periods. These conditions are usually caused by vehicles backed up behind downstream restrictions.

AASHTO's *A Policy on Geometric Design of Highways and Streets* states that a LOS B should be maintained on a rural arterial highways throughout its design life (9). This criteria is one of the primary considerations in the evaluation of the design alternatives for the proposed action. Future development of projects on the National Highway System (which includes US 2) must be done in accordance with AASHTO policies.

LOS analyses were performed to address several questions about the current and future operation of each alternative and to identify the most appropriate facility (from a highway capacity standpoint) for this proposed action. The major questions posed for the analyses were:

- What level of service does the existing facility currently provide?
- If the existing facility is not improved, what level of service will it provide in the design year?
- Will the two-lane alternatives (Alternatives 3 and 4) provide an acceptable level of service under current and design year traffic conditions?
- What level of service will be provided by the four-lane alternatives (Alternatives 1 and 2) under current and design year traffic conditions?
- If the two-lane alternatives will not operate effectively in the design year, are there features that can be incorporated into the alternatives that will substantially improve their operation?

For each alternative, the **current** LOS was calculated **using traffic volumes experienced during the 30th highest hour of the year (30HV) recorded at ATR Station A-60**. The 30HV, also referred to as the **design hourly volume (DHV)**, is commonly used as a design value for rural roads because as a percentage of the ADT, this hourly volume varies little from year to year even though substantial changes in total daily traffic may occur. In the project corridor, the 30HV occurs during the summer months. A corresponding future value for 30HV was calculated for use in evaluating the LOS provided by project alternatives in the design year (2010).

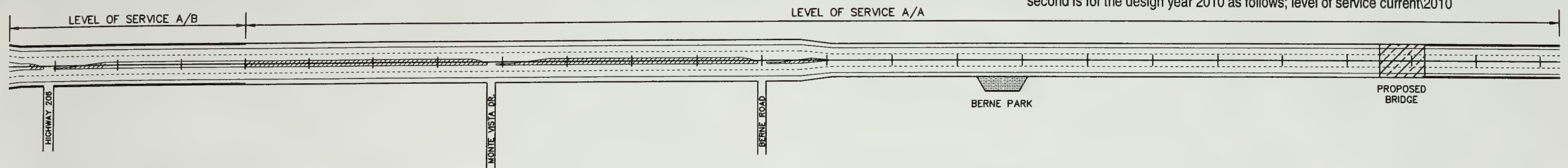
The findings of the LOS analyses for the alternatives are described below. **FIGURE II-15** presents a schematic summary of the LOS evaluations for each alternative considered. LOS calculations and other pertinent materials are on file in Helena.

The detailed LOS calculations initially completed for the EIS were based on available traffic information for the permanent traffic counter through 1990. Traffic data for 1991 became available during the development of the Draft EIS. Traffic information for 1991 was used to forecast the future traffic volumes for the corridor and was presented in the Draft EIS. The LOS calculations and other traffic-sensitive analyses were not revised for the Draft EIS because 1991 volumes in the corridor were higher than those in 1990. Likewise, 1992 and 1993 traffic information became available after the Draft EIS was circulated for review. The new data shows that traffic volumes for 1992 and 1993 were substantially above those of 1990 and 1991.

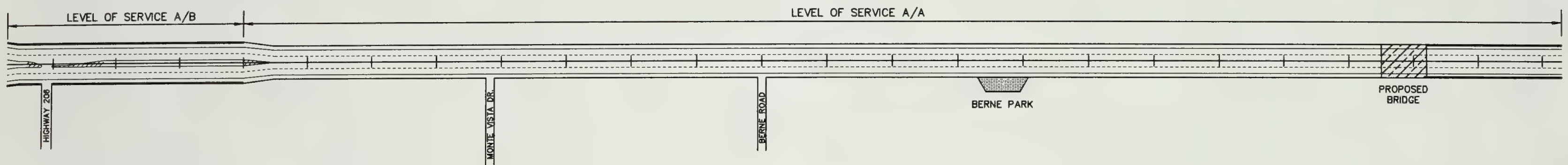
Checks were made to determine if the use of more recent traffic data would change the results of the LOS analyses presented in the Draft EIS. The LOS analyses performed with new traffic data reaffirmed the results and conclusions of the analyses described on the following pages. Therefore, the LOS analyses were not completely revised using the more recent traffic volume data.

Results of the LOS Analyses for the Existing Highway - The LOS for the existing 24-foot-wide two-lane roadway was calculated to be LOS E for **current traffic** conditions. This indicates that the facility currently

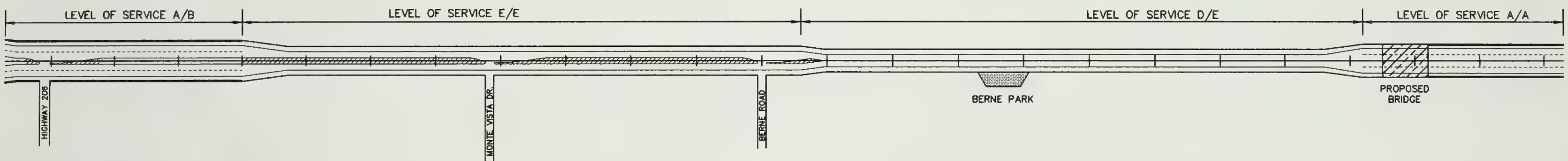
ALTERNATIVE 1 - 4 LANE HIGHWAY WITH MEDIAN/LEFT TURN LANE



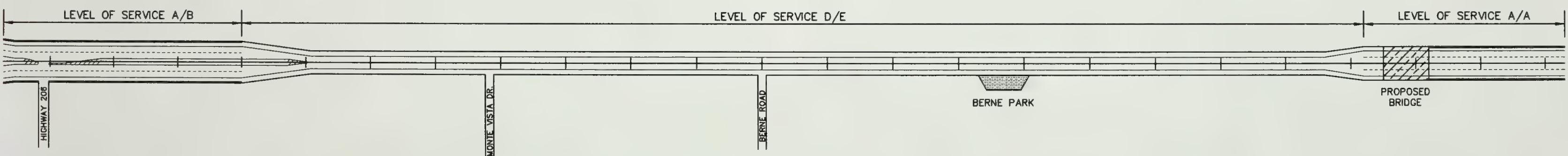
ALTERNATIVE 2 - 4 LANE HIGHWAY WITHOUT MEDIAN/LEFT TURN LANE



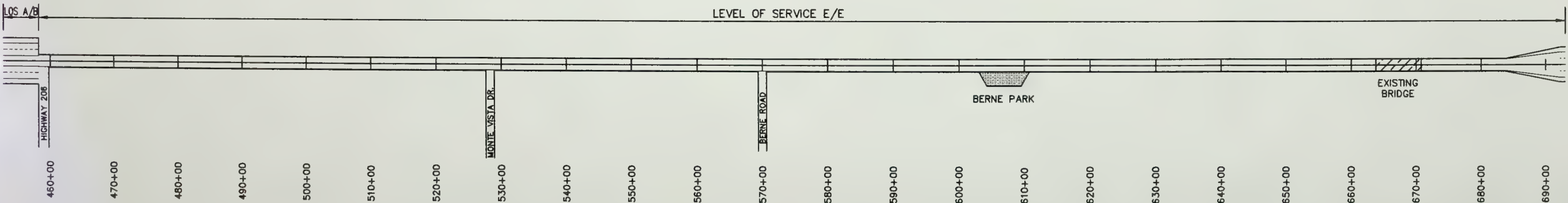
ALTERNATIVE 3 - 2 LANE HIGHWAY WITH MEDIAN/LEFT TURN LANE



ALTERNATIVE 4 - IMPROVED TWO LANE HIGHWAY



ALTERNATIVE 5 - NO ACTION



Note: The first level of service listed is for current traffic conditions, while the second is for the design year 2010 as follows; level of service current\2010

operates at or near its capacity. Calculations also show that the facility would operate at LOS F in the design year.

Results of the LOS Analyses for Two-Lane Alternatives - The following sections summarize the results of the LOS analyses for Alternatives 3 and 4.

ALTERNATIVE 3 -- The alternative would operate at LOS E under **current** and design year traffic conditions. The presence of a continuous, two-way left turn lane or a median with isolated left turn bays would adversely affect capacity by eliminating passing.

ALTERNATIVE 4 -- This alternative would operate at a LOS D under **current** conditions and at LOS E in the design year. Capacity would improve somewhat over the existing facility because of the wider shoulders and the alignment improvements that would provide more passing opportunities.

Results of the LOS Analyses for Four-Lane Alternatives - The following paragraph summarizes the LOS analyses conducted for the four-lane alternatives (Alternatives 1 and 2).

ALTERNATIVES 1 AND 2 -- The capacity calculations indicated that these four-lane alternatives would operate at LOS A for **current** and design year traffic conditions in all portions of the corridor.

Consideration of Left Turn Lanes - All build alternatives would provide a continuous, two-way left turn lane in Columbia Heights. This design feature is desirable due to the number and density of approaches to residences and businesses in this part of the project corridor.

Alternatives 1 and 3 also would provide a median with isolated left turn lanes at justified locations in the corridor. Such a design feature may be appropriate when left turn volumes at a specific approach exceeds 25 vehicles per hour **(10)**. The accident history, primarily the number of rear-end collisions recorded at an approach or in a short road segment, may also suggest the need for left turn provisions. Analyses did not identify any locations between Columbia Heights and Hungry Horse where left turn volumes exceed 25 vehicles per hour or where high numbers of rear-end collisions have been recorded.

Although left turn lanes can not be warranted solely by turning volumes or by accident histories at approaches east of Columbia Heights, isolated left turn lanes would provide operational benefits where they are used. Such a design feature would also provide traffic safety benefits by separating turning and through traffic.

Measures to Increase the Capacity of Two-Lane Alternatives - The HCM describes several design modifications that may be used to improve the level of service for two-lane highways **(11)**. These modifications include:

- use of alternating passing lanes,
- use of climbing lanes,
- use of turnouts, and
- use of short four-lane sections.

The following sections discuss the use of these measures to improve the level of service of the two-lane alternatives evaluated for the proposed action. Although these options were not fully developed as project alternatives, LOS analyses allowed the effects of their use on the **operation** of the two-lane alternatives

to be examined.

Alternating Passing Lanes - This option would provide three travel lanes for sections of US 2 between Columbia Heights and the South Fork Bridge. The third lane would be assigned to traffic in one direction to increase the availability of passing and break up vehicle platoons. Similar opportunities would be provided for both east and westbound traffic, however, permissive passing would not be allowed for the one-lane direction to minimize conflicts between opposing traffic.

The HCM indicates that the second lane would provide more efficient passing and reduce left turn conflicts, but its operation would not approach that of a four-lane highway, even in the preferred direction **(12)**.

The recommended length for a passing lane is 1 to 2 miles **(11)**. The logical locations for adding another eastbound travel lane would be between Berne Memorial Park and the South Fork bridge. Likewise, a second westbound travel lane would be most desirable east of Columbia Heights. These locations would allow for the dissipation of vehicle queues before entering Columbia Heights or Hungry Horse. An analysis of this configuration shows that passing opportunities for eastbound and westbound traffic would be available over 60% of the corridor.

This measure would produce LOS A in the direction of travel with two travel lanes, but the single lane in the opposing direction would continue to operate at LOS E because passing would be prohibited. The overall corridor would operate at LOS D under current conditions and LOS E in the design year.

Climbing Lanes - The grades within the project corridor are not sufficient to warrant consideration of climbing lanes.

Turnouts - Turnouts have been used successfully to improve the traffic flows on two-lane highways in a variety of terrain conditions. According to the HCM, "turnouts are short segments of a third lane added to one side of the highway or the other which permit slow vehicles at the head of platoons to pull off the main roadway, allowing faster vehicles to pass" **(13)**. Turnouts longer than 600 feet are generally not designed because they could be mistaken for a passing lane.

The HCM also references the results of a study by the California Department of Transportation about turnouts that showed **(13)**:

- turnouts do not substitute for passing or climbing lanes,
- turnouts are used by only 10% of platoon leaders, and
- large trucks tend to avoid turnouts.

The addition of turnouts to the two-lane alternatives would improve the operation of the road in the vicinity of the turnouts by allowing for the redistribution of traffic within the platoon. Unfortunately, this effect would be localized and would not improve the overall LOS.

Short Four-Lane Sections - Short four-lane sections may also be constructed along a two-lane highway to eliminate delays due to slow moving vehicles, break up platoons, or provide additional passing opportunities. AASHTO suggests that four-lane sections be sufficiently long (1.0 to 1.5 miles) to dissipate vehicle queues **(14)**. Sections of four-lane highway longer than 2 miles may cause drivers to forget that the facility is predominantly a two-lane road.

The most appropriate location for a short four-lane section in the project area would be from Columbia Heights to the Berne Road area. This section would be about 1.7 miles in length. An analysis of this option

showed that passing opportunities for east and westbound traffic could be increased to 80% within the corridor.

The LOS analysis for this two-lane design option showed that the four lane sections would operate at LOS A while the remaining two lane segment would continue to operate at LOS E. The overall corridor would operate at LOS D under current conditions but deteriorate to LOS E by the design year.

Alternate Design Hourly Volumes - Scoping comments received during the preparation of the EIS suggested that DHV other than the 30HV should be examined for this corridor because of its seasonal fluctuations in traffic. The comments also suggested that a more cost-effective design may be achieved if a lower DHV was used. Use of the 30HV as the appropriate road design standard is a nationally accepted practice of state highway agencies and the FHWA. The 30HV is the only DHV that can be supported for the design of facilities of this type. However, a review of the level of service effects of using alternate DHVs was performed for informational purposes. The results are described below.

Data showing the total two-way traffic volumes for the top 870 hours of 1990 at ATR Station A-60 near the House of Mystery was reviewed **for the EIS**. Various hourly volumes, representing the 200th, 400th, and 870th highest hours of 1990, were selected as alternate design values for evaluating the LOS of the undivided, two-lane highway (Alternative 4) considered in the EIS. The 200th highest hourly volume (200HV) represented a two-way volume of 761 vehicles per hour, or 15.2% of the AADT, the 400th highest hourly volume (400HV) represented a two-way volume of 672 vehicles per hour, or 13.4% of the AADT. A traffic volume of 500 vehicles per hour was approximately equal to the 870th highest hourly volume (870HV) was identified from count data. The 870HV represented 10.0% of the AADT. Corresponding DHVs for the design year, based on these percentages and a projected AADT were calculated for use in the LOS analysis.

The LOS was calculated for the Alternative 4 using these DHVs. The results of the analyses did not vary substantially from the analyses based on the 30HV. The calculations showed that a two-lane design based on the 200HV would function at LOS D under 1990 traffic conditions and at LOS E in the design year 2010. Similarly, analyses based on the 400HV showed that the two-lane designs would function at LOS D for 1990 conditions and at LOS E in the design year. The analyses using the 870HV showed that a two-lane road would operate at LOS C in 1990 but deteriorate to LOS E by the design year.

These analyses indicate that, even using these lower design values, a two-lane alternative would not provide the desired level of service (LOS B) during the design life of the project.

2. EFFECTS OF RECONSTRUCTION ON TRAFFIC SAFETY

All build alternatives **would** increase traffic safety to varying degrees through the use of wider paved shoulders, improved horizontal and vertical alignments, and less severe roadside slopes. Limited access control for the proposed highway **would** provide safety benefits by combining or eliminating unnecessary approaches. The median/left turn lane proposed with several alternatives **would** reduce conflicts between turning and through traffic. Right-of-way clearing may provide minor traffic safety benefits during the winter by reducing the extent of shaded areas in Badrock Canyon.

No attempt was made to predict the accident rates for the alternatives presented in this EIS because each contains a variety of design features rather than a uniform design throughout the entire project area. Roadside environments and traffic facilities like those proposed do not exist, so similar accident information is not available for **evaluating** the proposed alternatives. Instead, a more general assessment, described below, was used to identify the likely effects of the proposed reconstruction project.

Effects of Reconstruction on Accident Rates - A before and after study of recent projects was performed

to help quantify the traffic safety benefits of major highway reconstruction on Montana's Primary Road System. Major reconstruction projects were those that included road widening, improvements to horizontal and vertical alignments, and the addition of other features designed to improve the operation of the facility. Overlay and widening projects were not considered in the study. **The** study primarily examined accident rates before and after reconstruction. The study reviewed accident rates for six two-lane to four-lane reconstruction and for eight major upgrades of two-lane facilities covering about 77 miles of the Primary Road System. A copy of the study is on file in Helena.

The study did not attempt to predict accident characteristics for particular road designs used on the Primary Road System because the **roadside environments and use of these facilities varies greatly between projects**. Before and after statistics for the same road segments were compared since the reconstruction activities would be the primary change in the conditions of each project area. Highway reconstruction **was** assumed to be the most influential factor for any changes in the accident rates for each project. Computerized accident data for a three-year period immediately preceding each construction project and for at least two years following construction were reviewed. The major **findings** of the study **are discussed** below.

Overall, accident rates decreased by an average of nearly 45% following reconstruction. Accident rates for two-lane to four-lane projects decreased by an average of 37.5% following reconstruction. Accident rates were reduced by an average of 52.3% for projects that substantially upgraded two-lane facilities.

Three recent projects on US 2 adjacent to or near the project area were included in **the** accident study. The LaSalle Road to Columbia Falls section and Hungry Horse to Coram section of US 2 were reconstructed from two-lanes to four-lanes in separate projects in the mid-1980's. The segment between Coram and West Glacier was also reconstructed as an improved two-lane facility during the same time period. Records show that accident rates for these segments decreased by 48%, 28%, and 52%, respectively, following reconstruction.

Expected Traffic Safety Benefits - Based on the **study**, it is realistic to expect the current rate of 3.67 ACC/MVMT to be reduced by about 40% following the proposed highway reconstruction between Columbia Heights and Hungry Horse.

3. BENEFIT-COST COMPARISON

An analysis was performed for each alternative to evaluate the economic effects of highway improvements on US 2. This analysis compares the benefits from reduced highway user costs to the facility costs required to produce the benefits. Highway user benefits considered in the analysis are vehicle travel time savings, fuel cost savings, and accident reduction savings. Facility cost components addressed in the analysis were design and engineering costs, right-of-way costs, construction costs, and operation and maintenance costs during the service life of the project.

The objective of benefit-cost analysis of highway improvements is to help select an efficient transportation investment for the project area. Efficiency, in this instance, refers to obtaining the maximum service from a transportation investment. The benefit-cost analysis provides an economic measure of the relative differences between the proposed alternatives. It is primarily of use to decision makers in the selection of an appropriate action for the proposal.

Results of the Benefit-Cost Analysis - **TABLE II-8** contains the results of the economic analyses for the alternatives under consideration. The ultimate product of the analysis was a benefit-cost ratio for each alternative. The ratio compares the estimated annual costs with estimated benefits to provide an indication of the cost-effectiveness of each alternative. It must be emphasized that values have been placed on benefits which are difficult to assess. Caution should be used in the interpretation of the benefit-cost ratios

because of their approximate nature. Small differences between ratios should not be considered as substantial due to the approximate nature of the analysis.

TABLE II-8 shows the annualized costs, annual benefits from reduced highway user costs, and the benefit-cost ratio for each alternative. All benefits and costs are expressed in constant dollars and based on **1992** prices.

Copies of the background materials and the methodology used for this analysis are on file in Helena.

TABLE II-8 BENEFIT-COST COMPARISON BY ALTERNATIVE			
Alternative	Annual Benefit	Annual Cost	Benefit-Cost Ratio
1	\$1,106,400	\$1,030,700	1.07
2	\$1,106,400	\$993,500	1.11
3	\$613,300	\$931,500	0.66
4	\$613,300	\$925,800	0.66
5	0*	0*	1.00*
* Costs and benefits presented in this analysis are compared to the cost and benefits of Alternative 5 (No-Action). By definition, the benefit-cost ratio of Alternative 5 equals 1.00.			

H. Preferred Alternative

Alternative 1, a four-lane highway, has been selected as the preferred alternative for the proposed action. This decision was based on the consideration of all evaluations contained in the **Final EIS**. All comments on the Draft EIS and from the public hearing **were fully evaluated prior to the selection of the preferred alternative.**

The preferred alternative would provide **four travel lanes and a center median/left turn lane** from the project's beginning in Columbia Heights to Berne Road, west of Badrock Canyon. The width of the roadway would be 82 feet through Columbia Heights and 78 feet **in the area** between Columbia Heights and Berne Road where no curbs or gutters would be installed. The center median/left turn lane would be eliminated between Berne Road and Hungry Horse reducing the typical width of the four-lane roadway to 64 feet.

Approximately 2,100 lineal feet of vertical retaining wall, using mechanically-stabilized backfill placed behind the wall, would be included with the highway reconstruction along the Flathead River in Badrock Canyon. PHOTO PLATE 3 depicts the riparian area along the Flathead River in Badrock Canyon where a vertical retaining wall is proposed. The photographs on the plate show the area as it currently exists and the area's likely appearance with the provision of a vertical retaining wall.

APPENDIX 4 contains a preliminary design layout for the preferred alternative. These drawings illustrate many of the design features of the project such as the proposed alignment, probable right-of-way limits, and where various typical sections would be used in the corridor. These plan drawings provide a basis for evaluating potential impacts and are not intended to serve as the final design for the project.

Photo Plate 3 - Proposed Retaining Wall in Badrock Canyon



Photo 1 - View of the existing riparian area east of Fisherman's Rock where a vertical retaining wall along the Flathead River is proposed.



Photo 2 - Simulated view of the riparian area with the provision of a vertical reinforced earth type retaining wall. Precast concrete panels would be used as a facing material with such a design.

Level of service calculations show that the existing two-lane highway already experiences operational problems during peak hours and predicts that the facility would operate at capacity by the completion of this proposed highway reconstruction. The operational efficiency of the existing facility could not be substantially increased by implementing TSM activities or mass transit options for the corridor. Analyses showed that a new two-lane road would initially function better than the existing facility but its operation would deteriorate to an unacceptable level as traffic volumes increase and passing opportunities and travel speeds decrease during **the foreseeable future**.

The operation of the two-lane alternatives considered in the EIS could be improved somewhat by **adding** left turn lanes, alternating passing lanes, turnouts, **or by incorporating** a short four-lane section. Although analyses **showed** that some localized operational benefits could be realized in the corridor, a two-lane facility incorporating such modifications would operate at LOS D under current traffic conditions and deteriorate to LOS E by the design year. This LOS would not be consistent with the stated purpose of this proposed action and would not address identified needs within the corridor.

A four-lane highway is the next logical progression in selecting a geometric design for the corridor that provides sufficient passing opportunities, maintains travel speeds, and accommodates the volume of traffic projected to occur over the next twenty years. The analyses performed for the EIS indicate that both four-lane alternatives (Alternatives 1 and 2) would provide an acceptable LOS in the design year and meet all design standards for rural arterials with traffic characteristics like those of the project corridor.

Alternative 1 was preferred over Alternative 2 because the median/left turn lane proposed for the area between Columbia Heights and Berne Road would eliminate conflicts between left turning and through traffic on US 2. This portion of the project corridor contains most of the existing roadside development and has a strong potential for new commercial and residential land uses in the future. The design of Alternative 2 would not accommodate traffic to these adjacent land uses as well as the preferred alternative.

The difference in cost between all build alternatives is not substantial. However, the operational benefits provided by a four-lane design far exceeds those of the two-lane options. The preferred alternative attempts to provide a facility that balances functional requirements with economics and environmental effects. The typical section of the preferred design is only 20 feet wider than the undivided two-lane option through the most sensitive area of the corridor. **Because the build alternatives follow the same horizontal alignment**, construction limits for the four-lane design are typically 10 feet wider on both sides of the highway than those of the undivided two-lane design. Due to the need to improve the alignment of US 2 through Badrock Canyon, the primary impacts of the proposed action (rock excavation, river encroachment, effects on Berne Memorial Park, and loss of riparian vegetation) are essentially the same for all build alternatives. The extent of these impacts is only incrementally greater for the preferred alternative than for the two-lane options considered.

Due to the uncertain funding for future highway projects, the proposed action may be in service well beyond the twenty years considered by the EIS. In light of this possibility, the construction of a lesser facility that would experience severe operational problems or be at capacity before the design year would not be prudent. The purposes and needs of this project would not be met if reconstruction was required within the next twenty years. Obviously, the reconstruction of a lesser facility would again cause substantial disruption to the environment of the project corridor and **require major expenditures for the design and construction of a new facility**.

I. Comparison of Alternatives

TABLE II-9 compares the features and operation of each **build** alternative. The characteristics of the alternatives that can be directly compared, such as the LOS, right-of-way requirements, and costs are included in the table. A table comparing the impacts of each alternative is included in Part IV.

TABLE II-9
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
COMPARISON OF ALTERNATIVES

ITEM/CONSIDERATION	ALTERNATIVE 1 (Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
1. DESIGN FEATURES					
• Width of typical pavement section	82'- Urban 78'- Rural w/median/left turn 64' - Rural	82'- Urban 64' - Rural	82'- Urban 58'- Rural w/median/left turn 44' - Rural	82'- Urban 64' - Rural	24' Urban/Rural
• Number of driving lanes	4		2		2
• Width of driving lanes	12'		12'		11'
• Width of shoulders	10'- Urban/8'- Rural		10'- Urban/10'- Rural		1'- 2'
• Incorporates median/left turn lanes?	Yes, from Columbia Heights to east of Berne Road	Yes, Columbia Heights only	Yes, from Columbia Heights to east of Bernø Road	Yes, Columbia Heights only	No
• Width of median/left turn lanes	14' where median would be provided				
• Minimum width of design section	64'		44'		24'
• Incorporates curbs, gutters, and sidewalks where appropriate?	Yes, curbs and gutters, sidewalks and a piped storm drainage system would be provided in Columbia Heights. Curbs and gutters and sidewalks would be provided from the new South Fork bridge to Hungry Horse to connect with existing features.				
• Type of bicyclist facilities	Build alternatives would provide 8'-10' wide shoulders for bicyclist use.				
• Number of lane-miles	20.63	19.00	14.58	13.22	11.80
• Other design features	Build alternative would include a new four-lane bridge over the South Fork of the Flathead River west of Hungry Horse, a reconfigured intersection where US 2 joins FAS 206, and a retaining wall along the Flathead River in Badrock Canyon.				
2. RIGHT-OF-WAY CONSIDERATIONS					
• Acres of additional right-of-way needed	48.76	45.87	41.78	40.84	None
• Existing right-of-way to be abandoned	11.50	11.50	12.94	12.96	None

**TABLE II-9 (Cont.)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
COMPARISON OF ALTERNATIVES**

ITEM/CONSIDERATION	ALTERNATIVE 1 (Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
• Final right-of-way impact	37.26	34.37	28.84	27.88	None
• Utility relocations required?	Yes	Yes	Yes	Yes	No
• Minimum width of right-of-way corridor (typical)	140'				
• Maximum width of right-of-way corridor (typical)	220'		210'		110'-190'
3. OPERATIONAL CONSIDERATIONS					
• Current (1992) AADT	5,720 vehicles per day at ATR Station A-60				
• Projected design year AADT (2010)	8,850 vehicles per day at ATR Station A-60				
• Design hourly volume (30HV) -- 1992	945 vehicles				
• Design hourly volume (30HV) -- 2010	1517 vehicles				
• Current Level of Service (LOS)	LOS A	LOS A	LOS D-E	LOS D	LOS E
• Design year Level of Service	LOS A-B	LOS A-B	LOS E	LOS E	LOS F
• Current accident rate (1990)	Not Applicable				
• Estimated % reduction in accident rate with alternative	40% Reduction in accident rate may be possible through reconstruction of the corridor.				
4. PROJECT COST ESTIMATES					
• Estimated construction cost	\$9,023,100	\$8,797,700	\$8,368,700	\$8,403,900	Not Applicable
• Estimated cost of utility relocations	680,900	680,900	680,900	680,900	Not Applicable
• Estimated right-of-way costs	880,200	786,400	714,000	706,500	Not Applicable
• Estimated cost of mobilization, traffic control, construction engineering, and contingencies	3,879,900	3,783,200	3,598,700	3,613,700	Not Applicable
• Total Cost of Project	\$14,464,100	\$14,048,200	\$13,362,300	\$13,405,000	Not Applicable
• Estimated Annual Maintenance Costs	\$51,800	\$47,780	\$36,670	\$33,250	\$33,990

TABLE II-9 (Cont.)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
COMPARISON OF ALTERNATIVES

ITEM/CONSIDERATION	ALTERNATIVE 1 (Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
• Adjusted cost of pavement maintenance over project life	\$423,300	\$382,700	\$352,700	\$313,800	\$379,200
• Estimated annual benefit	\$1,106,400	\$1,106,400	\$613,300	\$613,300	Not Applicable
• Estimated annual cost	\$1,030,700	\$993,500	\$931,500	\$925,800	Not Applicable
• Benefit-Cost Ratio	1.07	1.11	0.66	0.66	1.00

References for Part II

1. Colbert, Phil, Supervisor, **MDT** Traffic Operations Section, in a personal communication on January 26, 1990.
2. American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 1990, Washington D.C., page 494.
3. **Montana Department of Transportation, Traffic Operations Section, *Montana Automatic Counters*, 1992.**
4. **AASHTO, Page 369.**
5. **AASHTO, Page 499.**
6. **Robert Peccia & Associates, "Investigation of Design Alternates in Badrock Canyon for the Columbia Heights-Hungry Horse EIS", July, 1993.**
7. Khisty, C. Jotin, *Transportation Engineering - An Introduction*, Prentice-Hall, Englewood Cliffs, NJ, 1990, Page 210.
8. Transportation Research Board, National Research Council, *Highway Capacity Manual, Special Report 209*, (HCM), Washington D.C., 1985, page 7-6.
9. AASHTO, Page 495.
10. MDOH Traffic Unit, "Approach Standards for Rural Highways", 1983, page 22.
11. HCM, pages 8-18 through 8-21.
12. HCM, page 7-19.
13. HCM, page 8-20.
14. HCM, page 8-21.

Part III: Affected Environment

A. Introduction

The effects of implementing any of the alternatives can be accurately assessed only after the existing social, economic, and environmental settings of the highway corridor have been identified. The setting for the proposed action will be discussed for broad categories including: the physical environment, the biological environment, and the human environment. Information about existing environmental conditions was compiled for important features within each category and for other items that must be evaluated to comply **with the provisions of both NEPA and MEPA**. Current literature, documented studies, and information received from the public helped identify existing conditions in the area affected by the proposed action.

B. Physical Environment

1. CLIMATE

The climate of the project area is influenced by both moist air masses from the Pacific Coast and the drier continental air masses of the Great Plains. Consequently, the area often receives more precipitation and milder temperatures than other regions of Montana. Hungry Horse, at the east end of the project corridor, receives about 31 inches of annual precipitation. The mean annual snowfall is nearly 109 inches for this reporting station. Most precipitation occurs during May and June.

Mean January temperatures for reporting stations near the project area are approximately 20° F. Temperatures during the winter may drop to more than -20° F. July days typically have high temperatures in the 70s and 80s and scattered afternoon thunderstorms. Peak temperatures in the summer may reach 100° F.

Strong winds out of Badrock Canyon can cause blowing and drifting snow in the Columbia Heights area several times each winter. The shading effects of cliffs and vegetation along the highway in the Badrock Canyon to Hungry Horse segment of the corridor often cause icy road conditions to persist in this area during winter months.

2. GEOLOGY OF THE HIGHWAY CORRIDOR

Physiography - The project corridor extends eastward from the Flathead Valley, a broad intermountain basin, into a narrow canyon formed by the main stem of the Flathead River. The elevation of the corridor ranges from 3,000 to 3,100 feet above sea level between Columbia Falls and Hungry Horse. The elevations of Teakettle Mountain and Columbia Mountain approach 6,000 and 7,300 feet, respectively. The South and Middle Forks of the Flathead join near Hungry Horse and flow westward into the Flathead Valley.

Geology of the Highway Corridor - The types of geologic materials likely to be encountered during construction in the US 2 corridor include (1):

Recent Alluvium - This material is found along streams and bordering the Flathead River system and typically consists of silt, sand, and gravel eroded from bedrock or glacial outwash deposits. Alluvium is likely to be encountered in Badrock Canyon where the highway's alignment closely follows the main stem of the Flathead and at the South Fork river crossing.

Glacial Deposits - These deposits consist of lacustrine silt, clay, gravel, glacial drift, and alluvial fan materials. These materials may be found in the level to gently rolling terrain that exists from the project's beginning to Badrock Canyon.

Precambrian Rocks - These rocks are generally found in massive formations and consist of limestone, dolomite, and argillite. The specific units that **may be** encountered include the Siyeh Formation, the Grinnell Formation, and the Lower Piegan Unit. These rocks form the distinctive cliffs of Badrock Canyon. **The westernmost outcrop in Badrock Canyon, where rock excavation is proposed, consists of green-gray, purple, and purple-red siliceous argillite of the Grinnell Formation. The Grinnell Formation is the oldest rock in Badrock Canyon. A detailed geotechnical investigation of this outcrop was completed in October, 1994.**

FIGURE III-1 shows the generalized geology of the US 2 corridor.

Existing Geologic Hazards - The bedding and joint structure of the rocks in Badrock Canyon provide a potential for rockfalls. Large blocks of rock are known to have fallen from the cliffs within the last ten years and some blocks have even reached the shoulder of the existing road. Highway maintenance personnel indicate that minor rockfalls from the outcrops adjacent to US 2 are not uncommon. Geotechnical studies of the upper cliffs in the west outcrop of Badrock Canyon identified the presence of tension cracks and found evidence that rock plates in the outcrop have moved within the last 25 to 30 years. Large blocks of rock could potentially fall from this upper cliff area onto the existing or reconstructed highway.

Generalized geologic information also indicates that a fault probably exists at the base of the Swan and Whitefish mountain ranges at the extreme east edge of the Flathead Valley (1).

Important Soils in the Highway Corridor - The U.S. Department of Agriculture, Soil Conservation Service (SCS) was contacted to identify important soils that may be affected by the proposed action (2). The Farmland Policy Protection Act (FPPA) requires special consideration be given to soils that considered as prime farmland, unique farmland, or farmland of statewide or local importance by the SCS.

The SCS District Conservationist in Kalispell identified four soils crossed by US 2 as "locally important farmland." **These soils include Flathead-Mires Loam (0-3% slopes), Mires Gravelly Loam (0-3% slopes), Mires Gravelly Loam (3-7% slopes), and Mires Loam (0-3% slopes).** Locally important farmland is shown on **FIGURE III-1.**

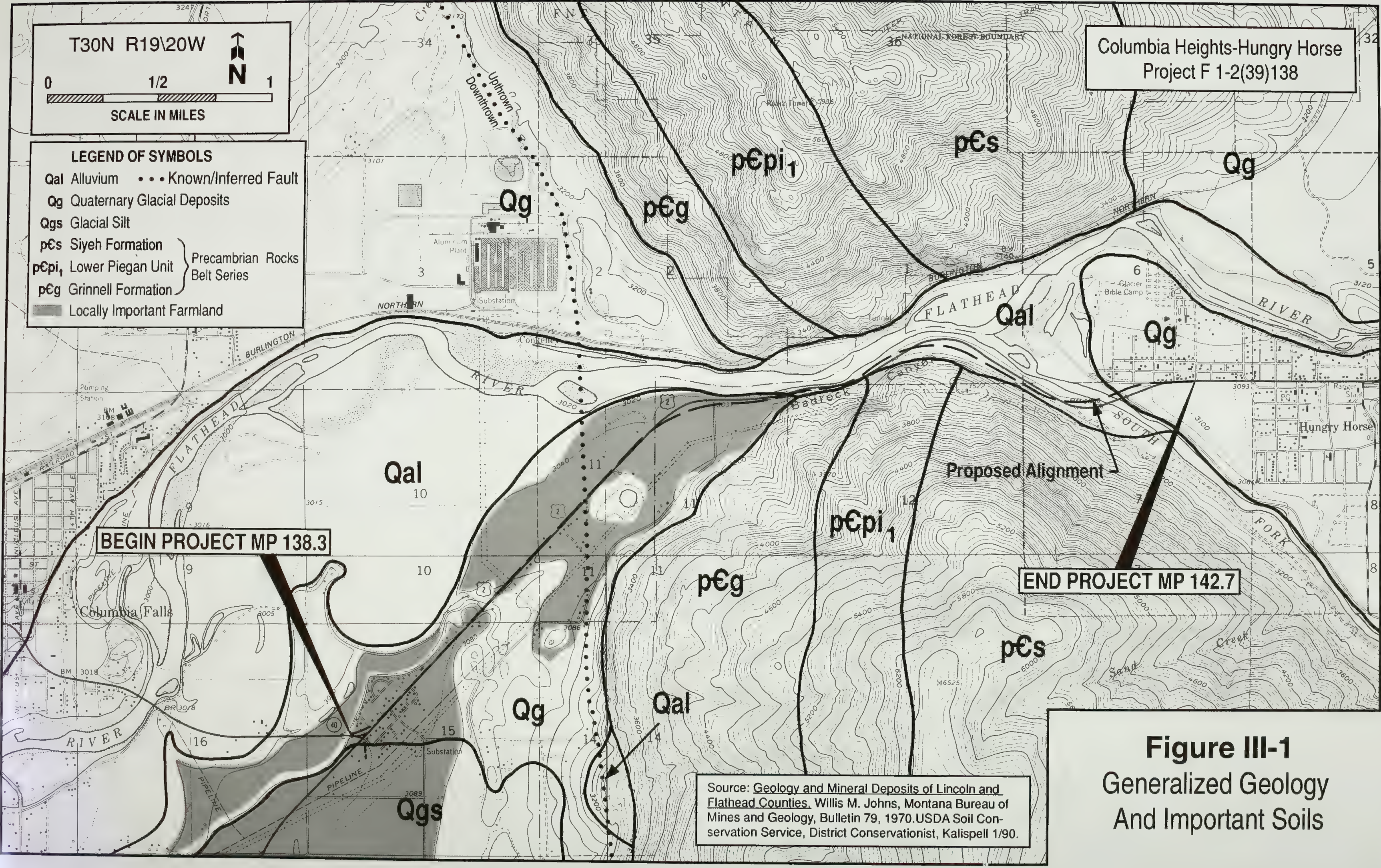
Correspondence from the SCS District Conservationist (January 19, 1990) identifying important soils and farmland in the project area is included in Part VI of the EIS.

3. WATER RESOURCES AND QUALITY

The proposed action has the potential to affect various water resources within the project area including surface waters and floodplains of the Flathead River system, a Wild and Scenic River segment, wetlands, and the springs at Berne Memorial Park. Wetlands and the Flathead Recreational Waterway are discussed in separate sections of this Part. The quality of affected surface and groundwaters in the project area is discussed generally because specific water quality data was not available.

Affected Surface Water Resources - Surface waters in the project corridor that may be affected by the proposed action include the main stem of the Flathead River and the South Fork of the Flathead River. These rivers and other surface waters in the general vicinity of the project are shown in **FIGURE III-2.**

The proposed action will not affect any wildlife sanctuaries or refuges, mud flats, or coral reefs. The



Source: Geology and Mineral Deposits of Lincoln and Flathead Counties, Willis M. Johns, Montana Bureau of Mines and Geology, Bulletin 79, 1970. USDA Soil Conservation Service, District Conservationist, Kalispell 1/90.

Figure III-1
Generalized Geology
And Important Soils

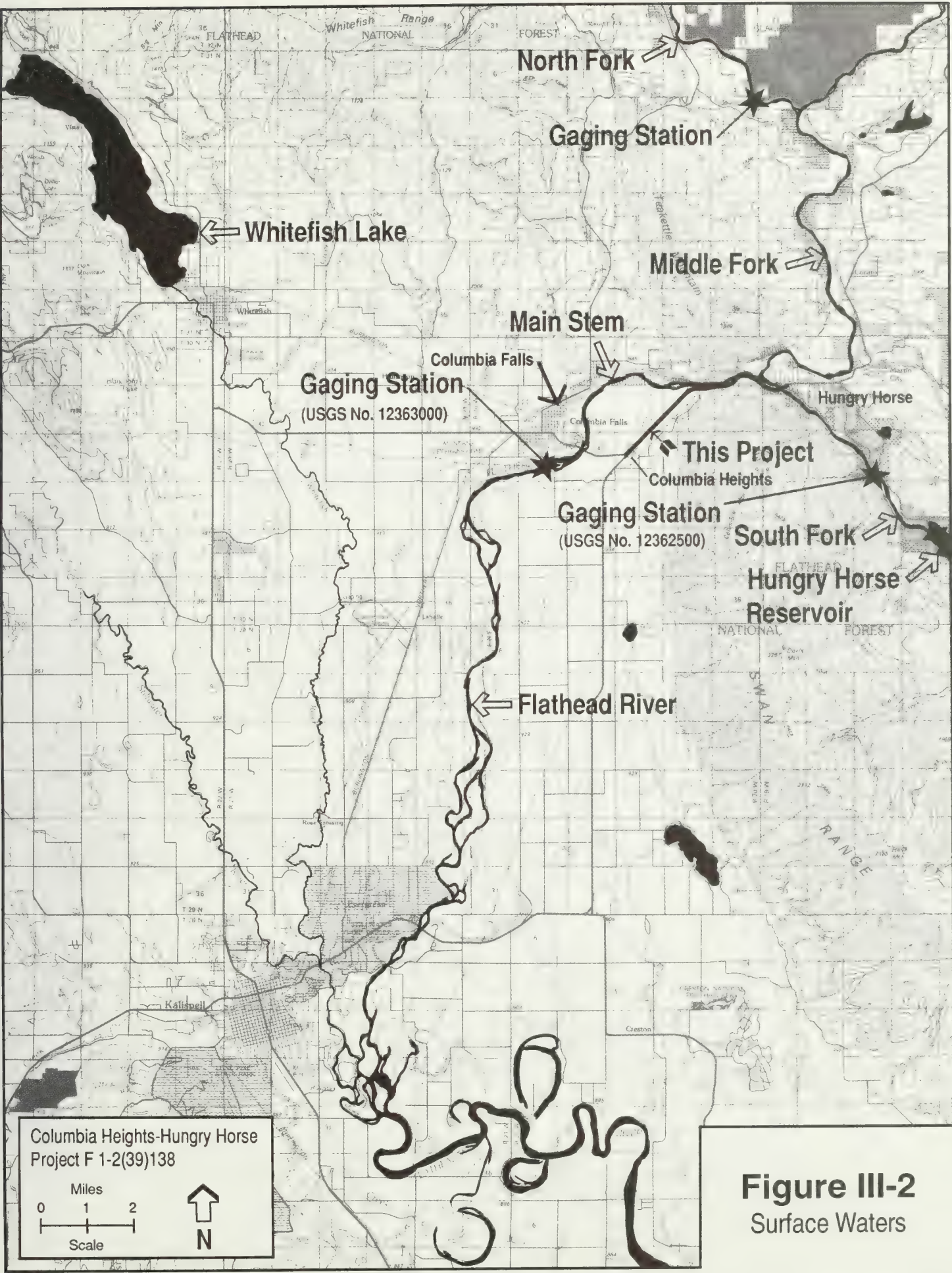


Figure III-2
Surface Waters

proposed construction of a new bridge over the South Fork of the Flathead River would affect riffles and pools. However, the natural sequence of riffles and pools that exist in the South Fork have been obscured by the alternating flow regimes from Hungry Horse Dam.

Streamflow - Streamflow in the main stem of the Flathead is measured at Columbia Falls. The period of record for discharge measurements at this station is 1922 to 1923 and 1928 to June 1985 (3). The average discharge following the construction of Hungry Horse Dam is 10,200 cubic feet per second (cfs).

The highest instantaneous flow on record (176,000 cfs) for the Flathead River near the **Columbia Heights-Hungry Horse** project area occurred during the June, 1964 flood. During this event, an above-normal snowpack was rapidly melted by heavy rains which produced record high river levels and caused property damages exceeding \$28 million. Water levels on the main stem of the Flathead at Columbia Falls were 25.6 feet above the gage height of the recording station (4). This flood was considered by the USGS to be equivalent to a 200-year flood occurrence. A scoping comment indicated that US 2 in Badrock Canyon was overtopped during the 1964 flood.

Streamflows on the five miles of the South Fork below Hungry Horse Dam vary dramatically according to power generation needs. Maximum power generation may yield flows of more than 11,000 cfs while periods of no power generation permit flows of about 150 cfs (5). Consequently, water levels in the South Fork may fluctuate by as much as eight feet per day, and levels in the main stem below the mouth of the South Fork can vary by as much as five feet per day.

Floodplains - Floodplains within the US 2 corridor occur where the existing alignment parallels the main stem of the Flathead and crosses the South Fork of the Flathead. The Federal Emergency Management Agency (FEMA) has conducted studies and prepared a Flood Boundary and Floodway Map for parts of the project corridor. These studies, performed for the National Flood Insurance Program, focused primarily on developed areas in and near Columbia Falls and Hungry Horse. FEMA maps identify the approximate 100-year flood boundary.

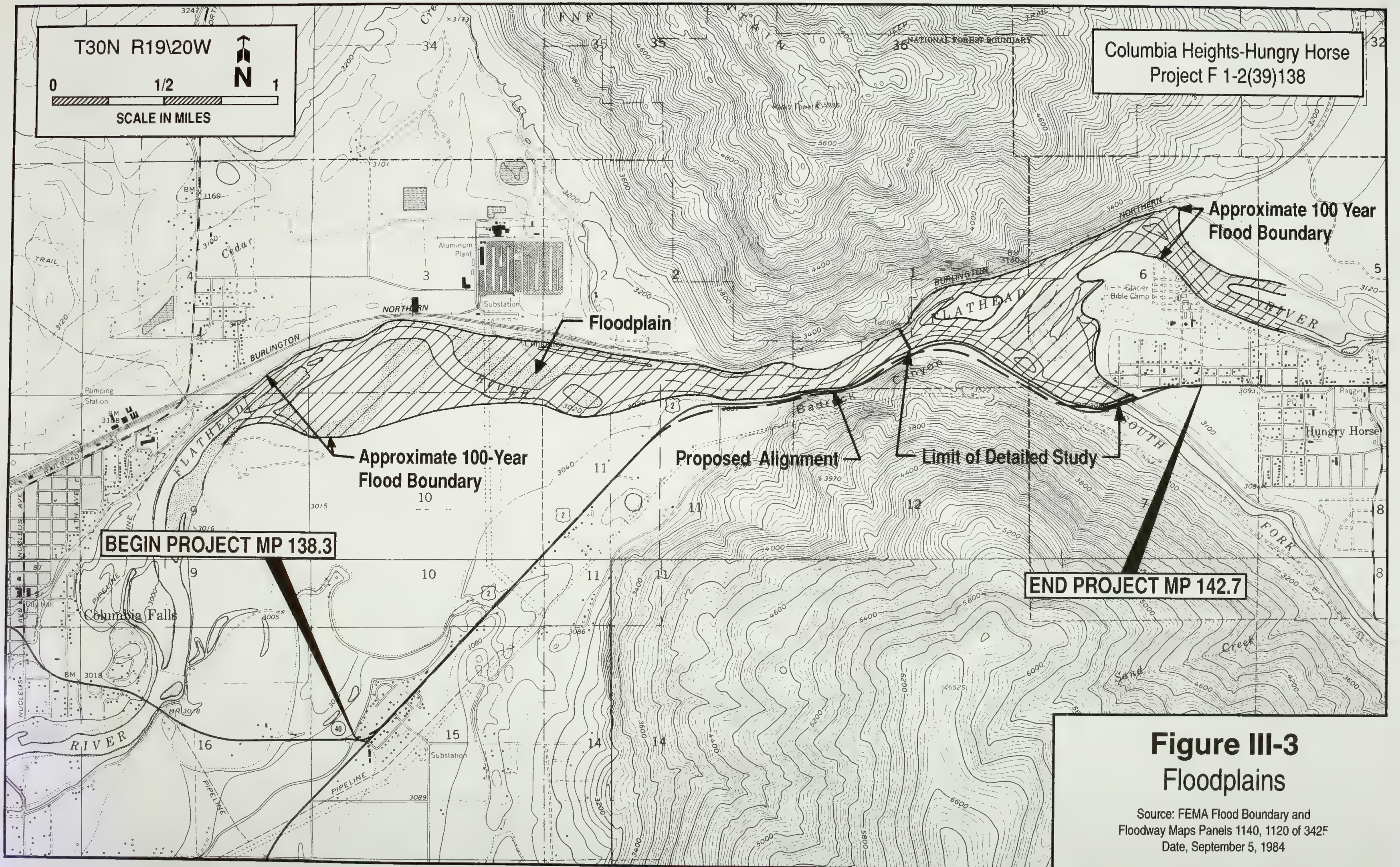
The floodplain area, depicted in **FIGURE III-3**, is located along the easternmost two miles of the existing highway and consists of a narrow band that closely follows the main channel of the Flathead. A broad floodprone area exists near the confluence of the South Fork at Hungry Horse. **The proposed alignment for the new bridge over the South Fork of the Flathead River crosses a portion of a FEMA-designated floodprone area.**

Both the City of Columbia Falls and Flathead County participate in the National Flood Insurance Program (6). Each jurisdiction has adopted floodplain management ordinances that require permits for development in the floodplain. The community of Hungry Horse is unincorporated and falls under the authority of Flathead County.

Correspondence about floodplains from the Department of Natural Resources and Conservation (DNRC) Information Officer (October 31, 1989) and the Supervisor of the Floodplain Management Section (March 21, 1990) is contained in Part VI of the EIS.

Wild and Scenic Rivers in the Project Area - In 1976, Congress designated 219 miles of the North, Middle, and South Forks of the Flathead River as part of the National Wild and Scenic Rivers System. The purpose of this action was to maintain these waters for recreation, fish and wildlife habitat, and for scientific study. Portions of the river system are classified as Wild, Scenic, or Recreational based on their characteristics and use.

Within the project corridor, only the Middle Fork of the Flathead, upstream from its confluence with the South Fork near Hungry Horse, has been designated as a **Recreational River**. The USFS also designated



a Management Corridor for the Middle Fork Recreational River segment. The primary reason for the establishment of the corridor was to protect the unique environment and qualities of the Wild and Scenic Rivers System. **FIGURE III-4** shows the location of the **Recreational River and its Management Corridor**.

The proposed action will cross a small portion (0.84 acres) of the Middle Fork of the Flathead Wild and Scenic River Corridor located in the extreme southwest corner of Section 6 in Township 30 N, Range 19 W. Based on comments on the Draft EIS/Section 4(f) Evaluation from the Supervisor of the Flathead National Forest, some uncertainty exists as to whether or not an easement for US 2 was obtained on the 0.84 acres of land in the Middle Fork of the Flathead Wild and Scenic River Corridor affected by this project. "As-built" plans for a previous improvement project on this section of US 2 completed in the 1960's show the entire parcel of land to be within the existing highway right-of-way. Subsequent investigations by both the USFS and MDT have not produced an easement or deed for this property. Documentation does exist showing that the roadway has been in this same general location since 1916.

If no easement exists for the highway, an application for an easement must be submitted to the USFS. Before such an easement can be granted, the USFS must prepare a Letter of Consent. This transfer of land must be completed prior to beginning construction on the proposed project. The responsibilities of MDT, FHWA, and the USFS (Northern Region) during the acquisition of right-of-way and future development of the highway over forest lands are outlined in the *Memorandum of Understanding on Procedures Related to State Highways Over National Forest System Lands* approved in January, 1993.

General Water Quality - Surface waters typically have moderate concentrations of dissolved materials and high concentrations of dissolved oxygen. Heavy metals and excessive salts are generally absent from surface waters of the Flathead. Low nutrient concentrations inhibit the growth of aquatic plants and keep the amount of biological matter relatively low. The erosion of stream banks during spring runoff adds large volumes of sediments to the water and produces seasonal increases in turbidity.

An International Joint Commission established the Flathead River International Study Board in 1985 with a primary purpose of investigating water quality. The Board assembled baseline water quality data in order to assess possible impacts to the Flathead River system due to the development of a proposed coal mine in British Columbia. Water quality data on sediment loads, dissolved constituents, metals, and nutrient concentrations were gathered for various locations within the river system (7). APPENDIX 5 presents existing water quality data for the main stem of the Flathead River near the project area collected by the Flathead River International Study Board. **APPENDIX 5 also relates measured water quality values for surface waters in the project area and describes other aspects of the aquatic ecosystem relevant to the Section 404 permitting process.**

Affected Groundwater Resources - The springs at Berne Memorial Park in Badrock Canyon are the only groundwater resources affected by the propose action. The springs flow from aquifers in the mountainous terrain adjacent to US 2 where water has been trapped with the fractured zones of Precambrian rocks. One spring located in the project area serves a public fountain at Berne Memorial Park. Another spring in Badrock Canyon surfaces and seeps over the west rock outcrop at Berne Memorial Park.

The spring serving the Berne Memorial Park fountain has been classified as a non-community water system by the Montana Department of Health & Environmental Sciences (MDHES), Water Quality Bureau. **MDT is considered to be the operator of the spring and is required to perform quarterly bacteriological sampling at the spring.** No bacteriological contamination has been identified in water samples taken from the spring. A water sample was collected from the spring in May, 1990 and had its quality analyzed according to drinking water standards. The analyses showed the water to be of good

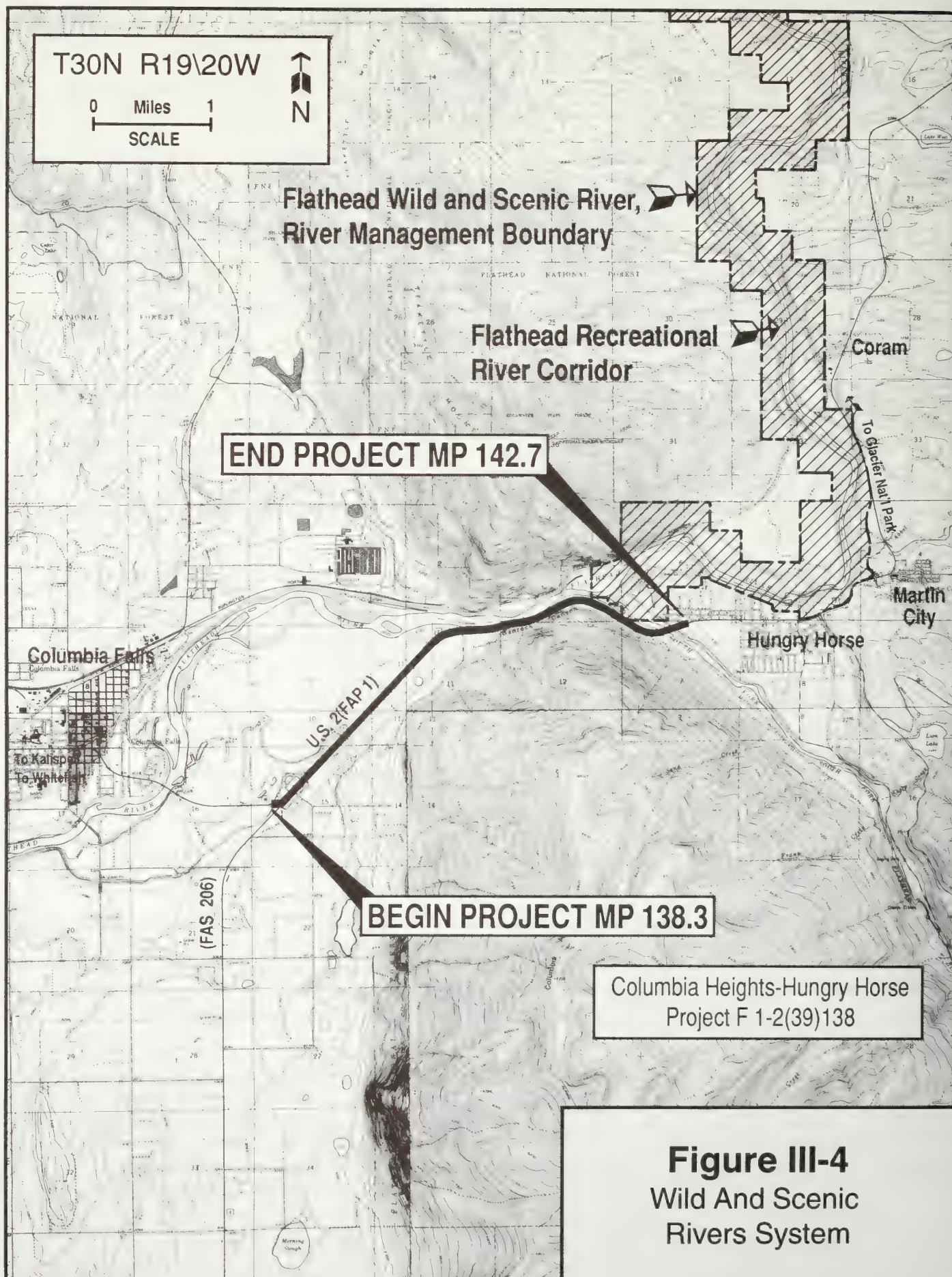


Figure III-4
Wild And Scenic
Rivers System

quality when compared with most parameters of the EPA's Primary and Secondary Drinking Water Standards.

4. AIR QUALITY

The only air emissions within the project corridor are those associated with vehicle use (carbon monoxide, nitrogen oxides, and particulates. Although no monitoring has been done to quantify such emissions for the project corridor, the use of the facility is low enough to indicate that the National Ambient Air Quality Standards (NAAQS) are not exceeded for these pollutants.

Air quality monitoring for specific pollutants (particulates, sulfur dioxides, and fluorides) has been performed in Columbia Falls where an aluminum plant and timber processing operations exist. Based on the results of this air quality monitoring, Columbia Falls was designated as a federal nonattainment area for PM-10 (particulate matter less than 10 microns in diameter) on November 15, 1990 due to violations of the PM-10 ambient air quality standard. As shown on FIGURE III-5, the proposed action is not located within the boundaries of this federally-designated nonattainment area for PM-10.

Prevention of Significant Deterioration (PSD) requirements, enacted by the Clean Air Act, established limits for increases in ambient pollution levels and a review procedure for major new sources of air pollution. Under these requirements, the project corridor has been designated as a Class II area which allows moderate, well planned growth and some degradation of air quality (8).

5. NOISE

Noise Sensitive Receptors - Noise sensitive receptors along the highway corridor include scattered residences, a church, a motel, and the roadside park in Badrock Canyon. Five locations, shown in **FIGURE III-5** were selected as sites for noise level measurements in the corridor. These sites included four residences and Berne Memorial Park in Badrock Canyon.

Ambient Noise Levels - Measurements were taken at the selected locations on November 30, 1989 to determine representative existing noise levels for the corridor. The tests were performed over 15-minute periods throughout the day at various distances from the existing centerline of the highway. Traffic volumes and composition on US 2 were quantified during the test periods. The recorded noise for each test location was scientifically analyzed to determine existing noise levels.

Ambient noise levels for the monitoring locations ranged from 60 to 68 $L_{eq}(h)$ dBA. $L_{eq}(h)$ is defined as the sound pressure level (usually in dBA) energy-averaged over a one hour period (9). The term dBA represents decibels measured with a frequency weighting corresponding to the A-scale on the standard sound level meter.

C. Biological Environment

1. VEGETATION

Vegetative Communities Within the Corridor - The highway corridor crosses two distinct vegetation zones between Columbia Heights and Hungry Horse. From Columbia Heights to Badrock Canyon, the relatively level plain formed from glacial outwash has been altered by human activities. Land has been cleared for pastures and hayland, rural residences and local urban development. Between Badrock Canyon and Hungry Horse timbered slopes typical of the northern forests have been largely left intact.

Twenty landtypes including six wetland types, five riparian communities, five upland communities,

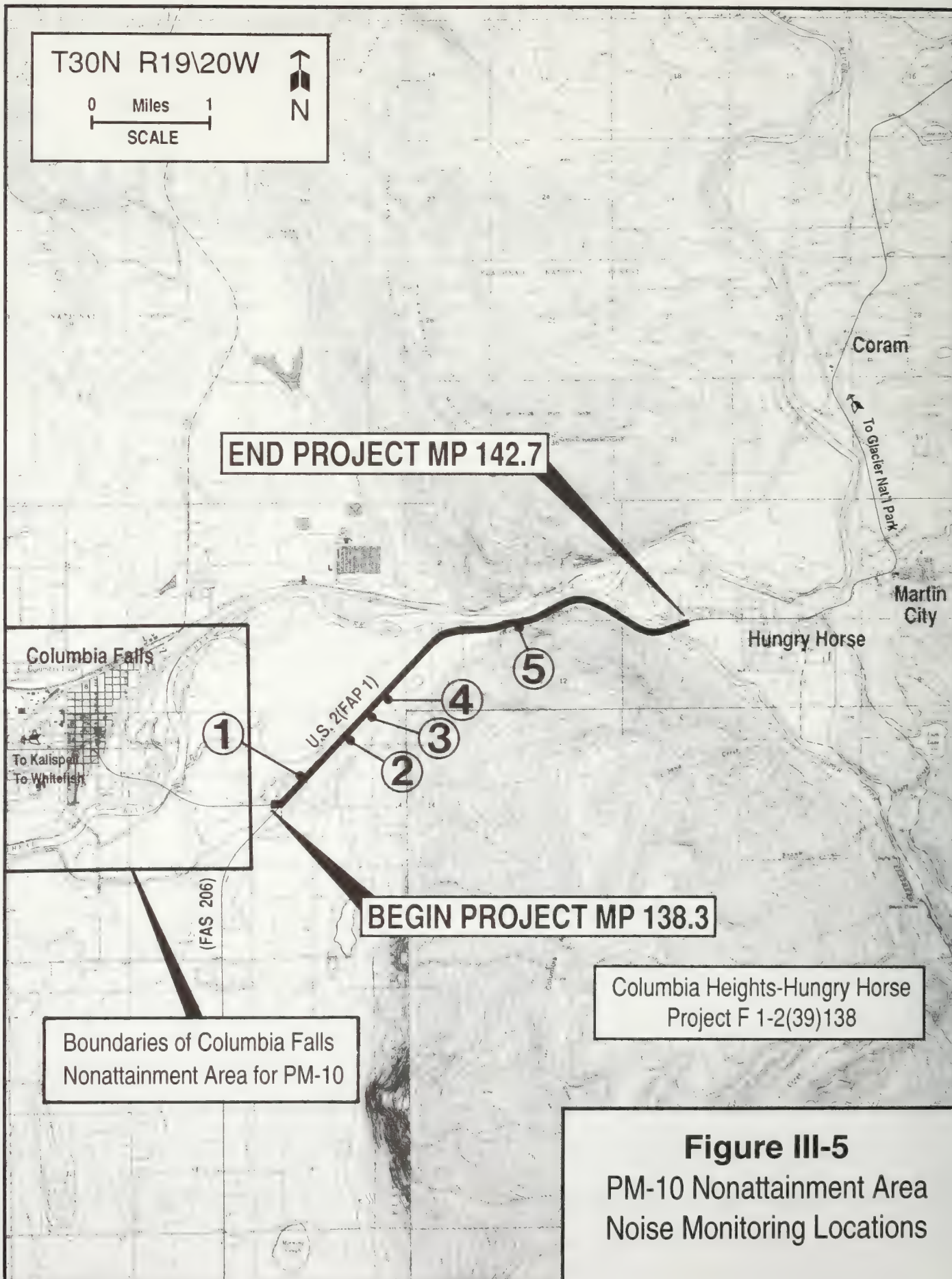


Figure III-5
PM-10 Nonattainment Area
Noise Monitoring Locations

and four other landtypes were identified in the project corridor. These communities are shown in FIGURE III-6 and described in detail in APPENDIX 6.

Spotted knapweed, a noxious weed, is common throughout the study corridor between Columbia Heights and Badrock Canyon. It also can be found along the existing right-of-way to the South Fork of the Flathead River crossing.

Plant Species of Special Concern - The Montana Natural Heritage Program and the USFS have identified rare plants and plant species of special concern. Contacts with these resource agencies indicate that no species of concern have been previously located within the study corridor (10). However, a number of the species may occur in community types similar to those found in the study corridor.

Maidenhair spleenwort (*Asplenium trichomanes*), small yellow lady's slipper (*Cyperidium calceolus* var. *parviflorum*), spalding campion (*Silene spaldingii*), and spurred genetian (*Halenia deflexia*) are all species of concern that were historically (during the 1890's) observed but not recently confirmed in the vicinity of the proposed highway reconstruction project. The latter three species have been located in Flathead County but in areas considerably away from the US 2 corridor. Spleenwort has not been recently observed in Flathead County.

The Flathead National Forest lists giant helleborine (*Epipactis gigantea*), northern bastard toadflax (*Geocaulon lividum*), and blunt-weed pondweed (*Potomageton obtusifolius*) as sensitive plant species that may occur on the Hungry Horse Ranger District in the vicinity of US 2 (10).

Marginal habitat for all of these plant species were encountered within the study corridor. None of the above mentioned species were observed during a field reconnaissance conducted in late June, 1989.

2. WETLANDS

Wetland Evaluation Results - A wetlands evaluation, completed for the proposed action in 1989, served as supporting documentation for the wetland impact analyses contained in the Draft EIS. Although the original evaluation fulfilled federal and state legal and policy requirements for assessing wetland impacts, review comments from the U.S. Army Corps of Engineers (COE) recommended that wetlands within the corridor be redelineated based on the 1987 COE Wetlands Delineation Manual. The agency suggested that jurisdictional wetlands be assessed for functions and values using the Wetlands Evaluation Technique (WET).

Based on these comments, wetlands within the corridor were redelineated and analyzed according to the procedures recommended by the COE.

FIGURE III-6 shows all of the vegetative map units within the project corridor including wetlands and riparian habitats. Six wetland community types were identified and are designated by the capital letter "W" followed by a number (i.e. W-1). Five riparian habitats, designated by the capital letter "R" followed by a number, were identified within the general project corridor. These riparian communities comprise about 80.2 acres within the corridor. A description of each wetland type along with a listing of vegetative community acreages within the general study corridor can be found in APPENDIX 6.

Jurisdictional and Non-jurisdictional Wetlands - Waters of the United States (Waters), which include wetlands and other special aquatic sites, are protected and regulated under the Clean Water Act. Pursuant to Section 404 of the Act, the COE has administrative authority to regulate dredging or the discharge of fill material in these Waters. Jurisdictional wetlands are Waters of the United States

that have specific diagnostic characteristics including:

Hydrophytic vegetation: a prevalence of vegetation that has the ability to thrive and reproduce in saturated soil or flooded conditions;

Hydric soils: soils that have developed primarily in a bio-chemically reducing (anaerobic) environment; and

Wetland hydrology: permanent or periodic inundation at water depths less than or equal to 6.6 feet or saturated soil to the surface at some time during the growing season of the prevalent vegetation.

Wetlands which meet these three characteristics (types W-0, W-1, W-2, W-3, W-4, and W-7) comprise a total of 29.2 acres within the general study area corridor. These jurisdictional wetlands have been highlighted on FIGURE III-6. The interpretation of soils, hydrology, and vegetation based on data collected during detailed field work at nine sampling points was used to determine the jurisdictional status of wetlands located in the project area.

Wetlands that lack one or more of the wetland characteristics identified above are considered to be non-jurisdictional. These areas, often important for wildlife habitat or other values, may be protected under Executive Orders 11990 (Protection of Wetlands) and 11988 (Floodplain Management) which control the actions of federal agencies in and around wetlands and floodplains.

Affected Wetland Sites - Five wetland sites were identified for detailed analysis within the project corridor. These sites are shown on FIGURE III-6 and discussed below:

Site 1: This site is located east of Columbia Heights and north of Grizzly Go-Carts and Batting Cages on private land outside of the existing or proposed rights-of-way for US 2. The site consists of a comprises about 4.2 acres and consists of a shallow pond and an associated stand of cottonwoods and aspens with a dense understory of shrubs. The proposed action would not affect this wetland site.

Site 2: This 4.9 acre site, located between Columbia Heights and the electrical transmission line corridor that crosses US 2, is bisected by the existing highway. The portion of the site north of the highway is inundated most of the year and is characterized by rooted emergent vegetation (W-1) surrounded by a narrow band of shrubs and trees (W-4, R-7). The area south of the highway is larger and is shallowly ponded through much of the year but is primarily influenced by a permanent high water table. Rooted emergent vegetation, wet site graminoids and forbs predominate this part of the wetland site. A narrow band of wetland/riparian communities (W-4/R-7) rings the southern part of Site 2.

Site 3: This wetland site consists of a small (4.7 acres) pond that is located on private land southeast of the intersection of US 2 and Monte Vista Drive and does not lie within the existing or proposed rights-of-way for this project. The pond is inundated most of the year and includes a deep water (more than 6.6 feet) section and an area of vegetated, shallow water. Open water and wetlands types W-1, W-2, and W-3 can be found at this site. The proposed action would not affect this wetland area.

Site 4: This wetland site is located on an old terrace of the Flathead River west of Badrock Canyon and adjoins the south right-of-way line for the existing highway. The site is comprised of a shallow pond covering about 1.1 acres. The pond is inundated most of the year and is fed by spring that surfaces on Columbia Mountain. Vegetated wetland types



List of Community Designations

Wetland Types

- Permanent Shallow Water (Less Than 6' Deep)**
W-0 Open Water
W-0/W-3 Shallow Water with Shrub/Herbaceous and Rooted Emergent Vegetation
W-1 Rooted Emergent Vegetation

- Seasonal or Permanently High Water Table**
W-2 Herbaceous
W-3 Shrub
W-4 Forested Cottonwood/Aspen
W-7 Forested Cottonwood/Conifer

Riparian Community Types

- R-7** Forested Cottonwood/Conifer
R-8 Springs and Seeps
R-9 Disturbed Bank
R-10 Unvegetated

Upland Community Types

- A** Dry Douglas-Fir Habitat
B Moist Douglas-Fir Habitat
C Rock Outcrop
E Subalpine Fir/Queen Cup Beadlily Habitat
G Spruce/Twinflower Habitat

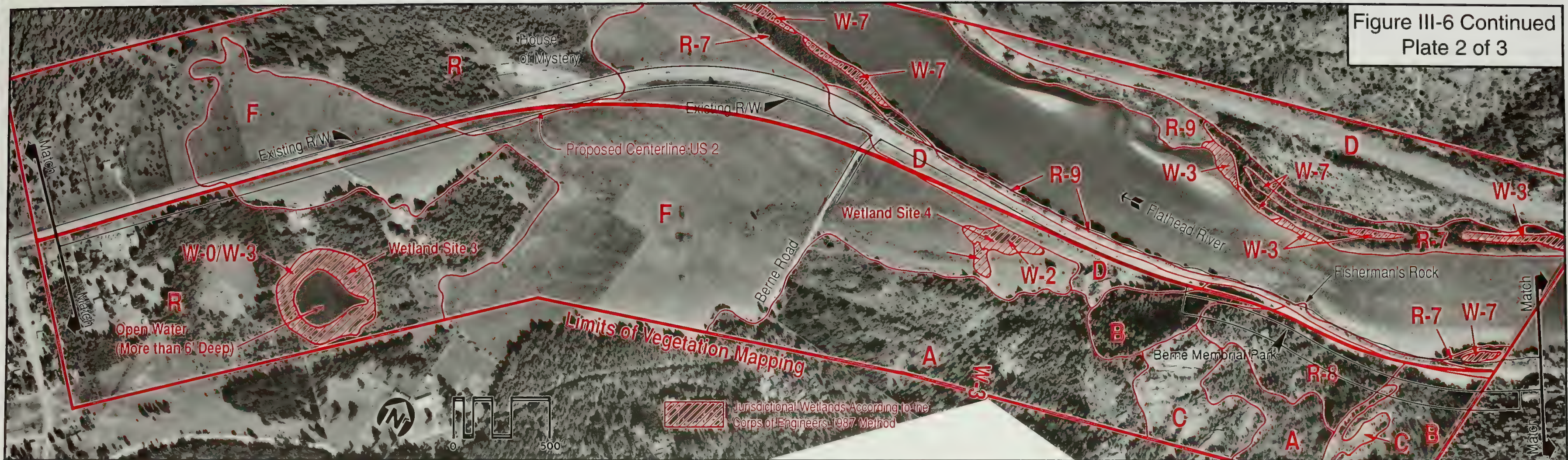
Other Landtypes

- F** Irrigated Pasture/Hayland
R Rural Residential Development
U Urban Development
D Disturbed

 Jurisdictional Wetlands According to the Corps of Engineers 1987 Method



Figure III-6
Landtypes, Vegetation and Wetlands



present at this site include primarily shrubs (W-3), and a herbaceous cover of wet site graminoids and forbs (W-2). Very small unmappable areas of cattail (W-1) exist at the south end of the pond where the feeder stream enters.

Site 5: This site includes all of the narrow, non-contiguous wetlands found within larger riparian communities along the Flathead River between the House of Mystery and Hungry Horse. Nineteen individual sites, ranging in size from 0.2 to 2.6 acres, were inventoried. Collectively, these sites comprise about 16.1 acres of the study corridor. These areas are typically located within the 100-year floodplain and are found in depressions formed by past flood events. The wetland communities are characterized by dense shrubs (W-3) and a deciduous overstory with a dense shrub understory (W-7). Standing water does not exist at these sites but the Flathead River is near.

TABLE A6-1 in APPENDIX 6 summarizes jurisdictional wetland acreages within the study corridor by site.

Functions and Values of Affected Wetland Sites - Wetlands are areas of special concern not only because the areas are relatively rare, but because they also serve various localized hydrological functions and are of value to the human and natural environment. The function and values of wetlands in the project area were assessed according to two procedures. The initial wetland evaluation employed procedures recommended by the Montana Interagency Wetlands Group to determine functions and values. However, as recommended by the COE, a subsequent evaluation determined the functions and values of each affected wetland site according to the WET procedure and the accompanying computer program WET 2.0.

WET defines functions as the physical, chemical or biological processes or attributes of a wetland without regard to their importance to society. Values are defined as wetland processes or attributes that are valuable or beneficial to society. WET assesses the following function and values:

Ground Water Recharge	Production Export
Ground Water Discharge	Wildlife Diversity/Abundance
Floodflow Alteration	Aquatic Diversity/Abundance
Sediment Stabilization	Recreation
Sediment/Toxicant Retention	Uniqueness/Heritage
Nutrient Removal/Transformation	

WET evaluates functions and values in terms of social significance, effectiveness and opportunity. Social significance assesses the value of a wetland to society due to its special designations, potential economic value, and strategic location. Effectiveness assesses the capability of a wetland to perform a function due to its physical, chemical or biological characteristics. Opportunity assesses the opportunity of a wetland to perform to its level of capability.

The process identifies numerous threshold values for predictive indicators which are then analyzed resulting in an assignment of a qualitative probability rating of high, moderate, or low to the above functions and values. Most wetlands that would be described as being of high value in the literature would also be rated high by WET. However, the converse may not be true; wetland functions and values rated high by WET may not always be determined to actually be of high value. It must be emphasized that the qualitative probability ratings assigned by WET are not direct estimates of the magnitude of a wetland function or value. Rather they are an estimate of the probability that a function or value will exist or occur in the wetland (to an unspecified magnitude).

TABLE III-1 summarizes the functions and values for each potentially affected wetland in the project area based on WET analysis procedures.

In terms of effectiveness and opportunity, the WET analysis predicts that Site 2 would have a high potential for serving Floodflow Alteration, Sediment/Toxicant Retention and Nutrient Removal functions. This is confirmed by the fact that the wetland is in an internally drained basin. On the other hand, the source of surface water is relatively limited since it comes in the form of runoff and in-place snowmelt. The site's potential to fulfill other functions is rated low.

Site 4 has a high potential to provide Sediment/Toxicant Retention functions. Floodflow Alteration and Nutrient Removal functions could be provided at this site but factors such as topographic position and lack of a source for elevated nutrients reduces the likelihood that these functions are key to the value of the wetland. Without further site-specific studies, the extent of this site's contribution to groundwater recharge is uncertain.

**TABLE III-1
FUNCTIONS AND VALUES OF POTENTIALLY AFFECTED WETLANDS
BASED ON THE WET ANALYSIS**

WET Analysis Function/Value	Site 2			Site 4			Site 5		
	SS	Eff.	Opp.	SS	Eff.	Opp.	SS	Eff.	Opp.
Groundwater Recharge	H	L	*	H	U	*	M	L	*
Groundwater Discharge	L	L	*	L	M	*	M	L	*
Floodflow Alteration	L	H	H	L	H	M	L	H	--
Sediment Stabilization	M	L	*	M	M	*	M	L	*
Sediment/Toxicant Retention	M	H	H	M	H	H	M	H	H
Nutrient Removal/ Transformation	M	H	H	M	H	M	M	H	L
Production Export	*	L	*	*	L	*	*	L	*
Wildlife Diversity/Abundance**	M	*	*	M	*	*	M	*	*
Breeding	*	L	*	*	M	*	*	L	*
Migration	*	L	*	*	L	*	*	L	*
Wintering	*	L	*	*	L	*	*	L	*
Aquatic Diversity/Abundance	M	L	*	M	M	*	M	L	*
Uniqueness/Heritage	M	*	*	M	*	*	M	*	*
Recreation	L	*	*	L	*	*	H	*	*

* WET does not evaluate this function or value in these terms.

** Wildlife Diversity/Abundance assesses only wetland-dependent birds

SS= Social Significance; **Eff.**= Effectiveness; **Opp.**= Opportunity; **H**= High; **M**= Moderate; **L**=Low; **U**=Uncertain

Wetland areas associated with Site 5 are very similar in nature. The key function provided by these wetlands is localized Sediment/Toxicant Retention. Sediment from flood events on the Flathead River settle-out in these depressions in the riparian zone. Also, runoff from the highway that may contain waste oil and other contaminants may be captured in these areas, especially at the areas in Badrock Canyon and near the South Fork. The potential of Site 5 to fulfill other functions is rated low.

Copies of the initial wetland evaluation and the subsequent wetland re-evaluation containing the entire WET analysis for sites within the project corridor are on file in Helena.

3. WILDLIFE AND FISH

Wildlife and Fish Habitat - Habitat requirements for wildlife species in the project area are met by combinations of topography and vegetation types. Wildlife habitat types are based on existing vegetation and correspond to the vegetative community types described in APPENDIX 6. The extended project area for wildlife and fish for the proposed action includes: the existing US 2 corridor; the north end of the Swan Range (Columbia Mountain); Teakettle Mountain, north of the Flathead River; the main stem of the Flathead River; and the South Fork of the Flathead River.

Wildlife populations using this large area are abundant and diverse, as are the habitats. However, habitats immediately adjacent to the highway are limited in size and diversity, and are separated from the extended project area by the Flathead River and existing transportation corridors (railroad and US 2). Some habitat adjoining the highway has been compromised by land subdivision and development.

Wildlife Species - A variety of predators and furbearers are found in the extended area around the existing highway corridor. Coyotes, red fox, skunk, bobcat, black and grizzly bears, wolf, muskrat, mink, marten and wolverine are among those animals periodically expected to occur in the vicinity. According to local residents and area biologists there have been occasional, but very infrequent sightings of black and grizzly bears along or crossing US 2. Coyotes and foxes are more frequently observed.

Ungulate species that may occur in or near the proposed action include white-tailed deer, mule deer, and elk. Moose are infrequently seen in this area. White-tails typically use pastures and haylands adjoining the right-of-way near the House of Mystery throughout the year and often cross US 2 to access the river.

All local ungulate species are found in substantial numbers north of the river on Teakettle Mountain and south of the highway on Columbia Mountain. Observations of the area above and south of Berne Memorial Park verify that it is laced with game trails commonly used by deer and elk. Lush vegetation and seeps in this area may cause it to be attractive to these species. There does not, however, seem to be any indication that these animals are frequent roadside visitors in Badrock Canyon.

Fish Species - The main stem of the Flathead River and its tributaries support fish that are both native and introduced to the area. Game fish species expected to occur in the South Fork and main stem of the Flathead include westslope cutthroat, bull trout (a species of concern in Montana), kokanee salmon, rainbow trout, and mountain whitefish.

Less frequently found in the Flathead River are brook trout, Yellowstone cutthroat trout, lake trout and lake whitefish (11). Kokanee salmon, an important game fish in Flathead County, has suffered drastic reductions in numbers in recent years due to a variety of problems (12). The species is known to have spawned in the past in the main stem of the Flathead River in approximately 42 locations. Five of these areas are located in the reach that flows through the project area (11).

The Flathead River does not support commercial fishing activities, but is well known as a sport fishery. A

letter from the Department of Fish, Wildlife & Parks (FWP) Fisheries Division (September 18, 1989) attesting to the fishery value of the Flathead River is contained in Part VI.

Wildlife and Fish of Special Concern - Lists of mammals, reptiles, amphibians, fish, and birds known to occur in Flathead County were consulted to determine if species of special interest or concern may be affected by the proposed action (13). In Flathead County, 10 mammals of concern are known to occur. Twenty-six bird species of concern are listed for Latilong 2 which includes the county. A latilong is defined as the area between adjacent parallels of latitude and meridians of longitude and covers approximately 3,000 square miles. Please note that these species are known to occur within a very large area that includes the project corridor. It is unlikely that many of these species reside in the immediate vicinity of the proposed action.

The westslope cutthroat trout and the bull trout are fish of special concern that occur in the Flathead River system. Recently, the U.S. Fish and Wildlife Service considered whether or not the bull trout should be listed as a threatened or endangered species. In June of 1994, the agency announced that the bull trout would not be added to the list of threatened or endangered species.

Comments received on the Draft EIS, suggested that the Coeur d'Alene salamander (*Plethodon idahoensis*), a sensitive species, may exist in the cliffs near Berne Memorial Park. Contacts were made with the Montana Natural Heritage Program and the Flathead National Forest regarding sensitive species during the preparation of the EIS. These initial contacts did not yield any information that verified the presence of Coeur d'Alene salamanders within the project area. The nearest site where Coeur d'Alene salamanders are known to occur is on the east side of Lake Koocanusa approximately 60 miles west of the proposed project area.

In an effort to determine if Coeur d'Alene salamanders exist in Badrock Canyon, the Montana Natural Heritage Program was retained to survey appropriate habitat for the species. Zoologists visited Badrock Canyon in late October, 1993 and found no salamanders or other amphibians. Since cool weather may have been the reason that no amphibians were found, two follow-up surveys were performed in May, 1994. No amphibians (including Coeur d'Alene salamanders) were found during either of the follow-up surveys.

4. THREATENED OR ENDANGERED SPECIES

The U.S. Fish and Wildlife Service (USFWS) was contacted to determine the listed or proposed threatened or endangered species that may be present in the project area. The USFWS lists the gray wolf, bald eagle and the peregrine falcon as endangered species and the grizzly bear as a threatened species. A copy of the USFWS letter identifying these species (August 22, 1989) is included in Part VI of the EIS.

The USFWS further indicated that the grizzly bear (*Ursus arctos horribilis*) **resides on lands near the project area** and the bald eagle (*Haliaeetus leucocephalus*) breeds in the general vicinity and winters along the main stem and South Fork of the Flathead Rivers. The peregrine falcon (*Falco peregrinus*) was listed as a seasonal migrant to the US 2 corridor. The gray wolf (*Canis lupus*) is listed as a potential resident of lands near the proposed project.

5. ENVIRONMENTALLY SENSITIVE AREAS

The natural environment of the upper Flathead River region is unique and has been recognized as such not only in Montana but nationally. The features which make this region of Montana special include its relatively unspoiled wildlife and plant communities and its outstanding scenery. Several areas within this region have received special designations and are managed to protect these special features.

These environmentally sensitive areas include:

- Glacier National Park,
- the UNESCO designated Biosphere Reserve,
- the Great Bear Wilderness and adjoining Wilderness Areas,
- the Coram Experimental Forest, and
- **the Mission Mountains Tribal Wilderness Area.**

The locations of these environmentally sensitive areas relative to the proposed action are shown in **FIGURE III-7**. Although US 2 within the project area can be used to access each of these areas, they are well outside the limits of the proposed action. Any effects on the areas **previously listed** that may result from the proposed action would be indirect and very limited in their extent.

Two environmentally sensitive areas, the Northern Continental Divide Grizzly Bear Ecosystem and Badrock Canyon, **would** be directly affected by the proposed action. These areas are described below.

Northern Continental Divide Grizzly Bear Ecosystem (NCDE) - The highway corridor passes through the western edge of the NCDE, one of six such areas in the lower 48 states. These ecosystems have historically supported grizzly bears and have suitable habitat to "offer the potential for securing and restoring this species as a viable self-sustaining member of each ecosystem" (14). The NCDE contains about 5.7 million acres of occupied grizzly bear habitat.

Grizzly bear management guidelines have been standardized for all National Forest, National Park and Bureau of Land Management lands. The guidelines classify lands where unique grizzly populations and habitat conditions exist and provide directives for several management situations. The *Forest Plan* for the Flathead National Forest identifies their lands within the highway corridor (Badrock Canyon to Hungry Horse) as "habitat considered unnecessary for the survival and recovery, although the status of such areas is subject to review and change according to demonstrated grizzly population and habitat needs (15)."

The impacts of the proposed action on the NCDE **are** discussed in Part IV of the EIS.

Badrock Canyon - Badrock Canyon was identified as an environmentally sensitive area in the Final EIS/Section 4(f) Evaluation which examined the reconstruction of US 2 between Hungry Horse - West Glacier (FHWA-MT-EIS-81-02-F). The reasons Badrock Canyon was previously denoted as a sensitive area in this 1982 document include its importance to Native Americans, its use by migrating bald eagles, and the presence of Berne Memorial Park. These considerations and other potential impacts **are** discussed at length in **Parts IV and V of this EIS**.

D. Human Environment

1. POPULATION SERVED OR AFFECTED BY THE PROPOSED ACTION

Flathead County experienced dramatic population growth over the past two decades. During this period, the overall county population grew from 39,460 to 59,218, an increase of nearly 20,000 residents. The 1990 Census shows that the county's population grew by nearly 14% since 1980 (16). Recent population growth was not uniformly distributed within the county during this period. Census data for 1990 shows that the population of Columbia Falls decreased by 5.5% during the last decade while the populations of Kalispell and Whitefish grew by 11.5% and 18.0%, respectively,

- 1 Northern Continental Divide
Grizzly Bear Ecosystem (NCDE)
- 2 Glacier National Park
- 3A Great Bear Wilderness
- 3B Bob Marshall Wilderness
- 3C Scapegoat Wilderness
- 4 Badrock Canyon
- 5 Coram Experimental Forest
- 6 Mission Mountains Tribal
Wilderness Area



Figure III-7
Environmentally Sensitive
Areas

during the same ten-year period.

The project corridor lies within two County Census Divisions established for the purposes of recording the Census. The project area located west of the South Fork of the Flathead River lies within the Badrock-Columbia Heights Census Division. The area east of the South Fork, including the community of Hungry Horse, lies in the South Fork Census Division. The 1990 Census data indicates that the population of the Badrock-Columbia Heights and South Fork Census Divisions was 3,230 and 1,957 residents, respectively. These figures show that the overall population of the Badrock-Columbia Heights Census Division increased by more than 15% while the population of the South Fork Census Division remained virtually the same over the 1980 to 1990 period.

Estimated Corridor Population - There are approximately 30 households directly adjacent to US 2 in the project area. Using an average household size for the Badrock-Columbia Heights and South Fork Census Divisions of 2.78 persons, the 1990 population of the project corridor was estimated to be 84 persons (17).

Population Characteristics - The 1990 data for the County Census Divisions encompassing the US 2 corridor identified the following key characteristics of residents within the general project area:

- The project area's population is homogeneous. The 1990 Census showed that minorities (primarily American Indians) accounted for 2.1% of the population of the Badrock-Columbia Heights and South Fork Divisions. This is similar to comparable statistics on race for the County.
- In 1990, 8% of the residents in the Badrock-Columbia Heights Division and 10% of the residents in the South Fork Division were 65 years of age or older. Approximately 13% of the County residents were 65 or older according to the Census.
- The 1989 median household income in the Badrock-Columbia Heights Division was \$25,309 and \$16,932 in the South Fork Division as compared to \$24,145 for the County.
- In the Badrock-Columbia Heights and South Fork Divisions, 11.3% and 28.4%, respectively, of all families had incomes below the poverty level based on 1989 family income statistics. County-wide, some 11.7% of all families had incomes below the poverty level in 1989.
- Of specified owner-occupied housing units, 23.6% of the units in the Badrock-Columbia Heights Division and 55.7% of the units in the South Fork Division were valued at less than \$50,000 in 1990. About 28% of the housing units in the County were valued at less than \$50,000.
- In 1990, 41.7% and 71.9% of monthly rents for specific rental housing units in the Badrock-Columbia Heights and South Fork Divisions were under \$250. This compares to 41% for the County.
- In 1990, nearly 90% of the housing units in the Badrock-Columbia Heights Division were occupied, however, only 56% of the housing units in the South Fork Division were occupied. About 85% of all housing units in the County were occupied during the Census.
- Of the noninstitutionalized persons between the ages of 16 and 64 in these two Census Divisions, 1.7% had a mobility limitation. For noninstitutionalized persons 65 years and over, 7.4% had a mobility limitation.

2. LAND OWNERSHIP AND LAND USE

Land Ownership - The majority of the land adjacent to US 2 in the Columbia Heights area has been subdivided into small parcels for residential or commercial development. Between Columbia Heights and Badrock Canyon, small residential or commercial lots are interspersed with larger privately held tracts which are used for agricultural purposes. The largest private landholders in the corridor are the Columbia Falls Aluminum Company, the Simpson Family Trust, and the Clark Family Living Trust. The USFS administers much of the land south of US 2 between Berne Road and Hungry Horse. Berne Memorial Park and the weigh station in Columbia Heights are owned by the State of Montana.

Current Land Use - The initial two miles of the corridor (from Columbia Heights to the House of Mystery) is dominated by strip commercial development interspersed with single-family homes, cabins, apartments, and trailer units. Land uses change abruptly to open pastureland between the House of Mystery and Badrock Canyon. The predominant land use eastward from the entrance of the canyon is Berne Memorial Park, which contains a spring and historical markers.

Lands between Berne Memorial Park and Hungry Horse are generally **forested and undeveloped**. An electrical substation, access roads to USFS trails or BPA transmission lines, and the bridge over the South Fork are the only improvements to otherwise open lands.

Future Land Use in the Corridor - Since US 2 is and will continue to be heavily used by visitors to Glacier National Park, it follows that future land uses in the Columbia Heights area will be related to the seasonal influx of tourists.

The annual visitation to **Glacier National Park** has more than doubled since 1956. **During 1992, the total visitation to the Park was 2,199,767 visitors, the highest annual visitation total since the National Park Service (NPS) began its new visitor estimating procedures (18).** A spokesman for the NPS stated that the most important factors influencing annual visitation to the Park are gas prices and the opening date of the Going to the Sun Highway. The west entrance, accessed via US 2, was the most heavily used of the 10 entrances to the Park. Thirty-seven percent of all visitors entered Glacier from US 2 at West Glacier. **There is nothing to indicate that Glacier National Park and surrounding lands will not continue to be popular destinations for visitors.**

There are no current subdivision applications on file for lands in the highway corridor. However, a 150-unit recreational vehicle park has been approved but not constructed for property north of US 2 on the west edge of Hungry Horse. Investors have expressed a desire to convert the property into a destination resort/hunting camp. This proposal includes shuttle service to and from Glacier Park International Airport, north of Kalispell, and attractions for recreational vehicle travelers. It is not known if a formal application to develop the property as planned will be submitted (19). **Additionally, a minor expansion to an existing RV park located south of the US 2/FAS 206 intersection was recently proposed (19).**

The Draft EIS identified two other potential developments, a new planing mill at the Plum Creek Lumber Company in Columbia Falls and the proposed Crown of the Continent Ecosystem Center near West Glacier, that could induce commercial and residential growth in the project area. Plum Creek Lumber Company recently expanded the planing capacity at its existing facilities in Columbia Falls but has no plans to construct major new facilities in the Columbia Falls area (20). The Crown of the Continent Ecosystem Center, a joint development proposal of the USFS and the NPS, has been dropped from consideration at this time.

Land Use and Transportation Planning for the Corridor - Several documents exist that address land use and transportation planning in the US 2 corridor affected by the proposed action. Pertinent information from each document is summarized below.

Columbia Falls Planning Jurisdiction Master Plan, Year 2000 - This 1984 plan generally designated lands adjacent to US 2 in Columbia Heights as "highway commercial". A one-half mile long strip of land between US 2 and Berne Road lying immediately east of Columbia Heights was designated as suitable for "light industrial" activities.

The Master Plan also projects a 45% increase (70 additional acres) in the commercial land uses within the jurisdictional area by the year 2000. An unidentified portion of this additional commercial land use is projected to locate near the intersection of US 2 and FAS 206 in Columbia Heights. Policy recommendations in the plan attempt to discourage the development of new strip commercial areas.

Flathead County Master Plan, Year 2000 (1987) - The transportation and commercial/industrial elements of this comprehensive plan loosely address the project area. The transportation section identifies US 2 from Columbia Heights to Hungry Horse as one of four high accident areas on the Federal-Aid Primary road system in Flathead County. This section also discusses the negative aspects of strip commercial development and its costs to tax payers.

The element relating to commercial/industrial development includes policy statements that discourage additional strip development in the county and specifically oppose additional development along US 2.

Flathead County's existing Master Plan is currently being revised.

Flathead National Forest Plan - This comprehensive land and resource management plan for the Flathead National Forest was adopted by the USFS in December, 1985. The plan provides management direction for all lands in the forest for the 10- to 15-year period following the plan's adoption. Part of the highway corridor lies within the Columbia Mountain geographic unit of the Hungry Horse Ranger District. The management areas in this unit are shown on **FIGURE III-8**.

USFS lands directly adjacent to the project corridor are designated as MA-3, MA-10, or MA-18. The first designation provides for a management emphasis to maintain or enhance wildlife habitat and enhance visual and water quality. The MA-10 designation means that these lands will continue to be used for administrative facilities and activities. These lands have not had specific visual quality objectives assigned to them in the *Forest Plan*, but the USFS still has a general concern for visual quality within the management unit. MA-18 lands lie within the Flathead Recreational River Corridor and are managed to preserve the values of the Wild and Scenic River segment.

Zoning and Land Use Controls - The land use designations suggested by the Master Plans covering lands in the highway corridor are implemented through the use of zoning, the regulatory and enforceable means of land use management. Although the zoning process is available throughout the project area, none of the lands adjacent to US 2 have been zoned at this time. The Flathead County Board of Commissioners recently directed the Flathead Regional Development Office to begin the process of zoning the balance of county lands that lie outside existing zoning districts. Efforts are presently underway to institute County-wide zoning and will probably be in place by the time the proposed action would occur (19).

A group of local residents, known as the Canyon Citizen Initiated Zoning Group (CCIZG), was formed during 1992 to develop a land use plan and implement zoning or other land use controls for properties abutting US 2 between Columbia Heights and Marias Pass. A land use plan covering the US 2 corridor was completed and adopted by Flathead County during 1994.

Currently, subdivision regulations enacted by Flathead County are the primary means of controlling land

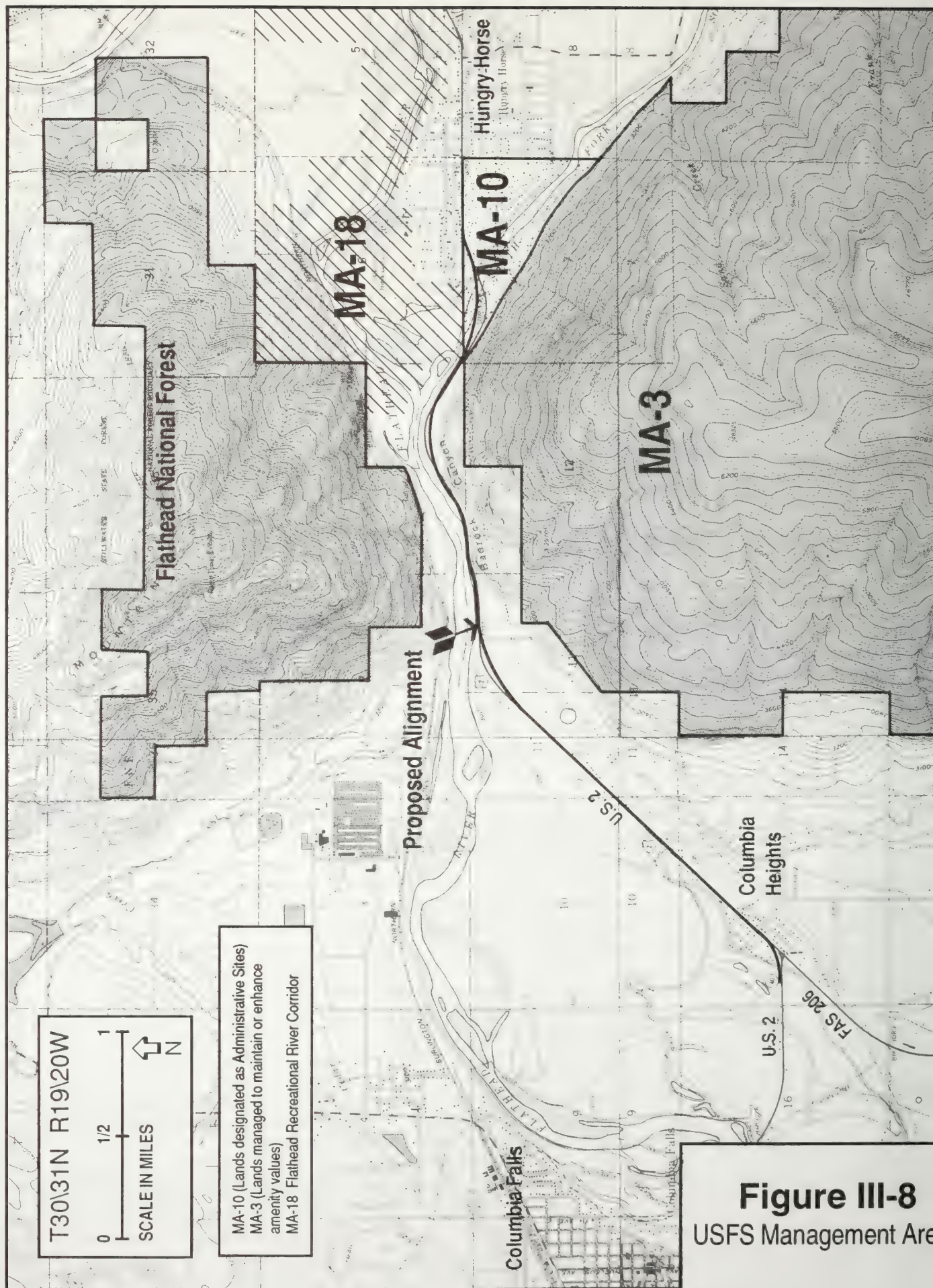


Figure III-8
USFS Management Area

uses in the project area. The county also has the authority to regulate development within designated floodplains. **Efforts are now underway to implement land use regulations based on the plan developed for lands along US 2 between Columbia Heights and Marias Pass.** MDT has no authority to implement land use controls based on comprehensive planning designations for areas outside of the highway right-of-way. However, the agency does have the authority to control access and outdoor advertising along US 2.

3. COMMUNITY INFRASTRUCTURE

Schools - School District Number 6, with offices in Columbia Falls, administers seven schools which serve the project area. None of the schools are located within the project corridor. School busses and District employees utilize US 2 during the school year. Between 25 and 30 of the estimated 96 students living in the Columbia Heights area are picked up each school day by busses at stops along US 2 **(21)**. During scoping activities, local school officials expressed their concerns about use of the road during inclement winter weather when ground blizzards and icy roads are common.

Law Enforcement - The Flathead County Sheriff's Office is responsible for law enforcement within the project area. The Montana Highway Patrol responds to all traffic-related incidents on US 2.

Emergency Services - Fire protection within the project corridor is provided by either the Badrock Canyon or Hungry Horse Volunteer Fire Departments or the USFS. Emergency medical service and quick response unit support are provided by Columbia Falls Volunteer Ambulance.

Utilities - The project corridor contains several public and private utilities that may be affected by the proposed action. These utilities are discussed below. Typical utility conflicts present in the corridor are shown in **PHOTO PLATE 4**.

Bonneville Power Administration (BPA) Facilities - The BPA operates a transmission line corridor from Hungry Horse Dam containing the 230-kilovolt (kV) Hungry Horse - Hot Springs line and the 115-kV Hungry Horse - Kerr Dam line. The 200 to 240 foot-wide corridor parallels US 2 but is located more than 700 feet southeast of the highway. The transmission lines are within 600 feet of US 2 through Badrock Canyon.

A 230-kV transmission line crosses US 2 east of Columbia Heights. The line extends from BPA transmission lines to the Columbia Falls Aluminum Company. Two towers supporting the line are located 100 feet from the centerline of the existing highway. Overhead lines cross the highway in two locations.

The BPA recently completed and approved an Environmental Assessment (EA) and issued a Finding of No Significant Impact (FONSI) for the proposed rebuild of 8 miles of electric transmission line between Hungry Horse Dam and the Columbia Falls substation. The proposed project would replace an aging 115-kV transmission line with a new 230-kV line. BPA's project would require some relocation of an existing 230-kV line and the removal of the old 115-kV line, resulting in two parallel 230-kV lines between the dam and substation. This project would rebuild the electric transmission lines that generally parallel US 2 between Badrock Canyon and Columbia Heights.

Part VI of the EIS contains correspondence from the BPA (September 26, 1989) about their facilities in the project area and the proposed Hungry Horse-Columbia Falls Line Rebuild and Relocation project (November 19, 1992 and December 2, 1992).

Flathead Electrical Co-op Facilities - Overhead and buried electrical distribution lines owned by

Photo Plate 4 - Utility Conflicts

- Photo 1 -** A variety of electrical transmission lines operated by the Bonneville Power Administration and the Flathead Electric Co-op are located in the project area.
- Photo 2 -** Numerous utility lines parallel and cross US 2 between Columbia Heights and Hungry Horse.
- Photo 3 -** The electrical transmission line to the Conkelly Substation at the Columbia Falls aluminum plant crosses US 2 between Columbia Heights and Monte Vista Drive near project Stations 510+00 and 512+00.
- Photo 4 -** Support towers for the BPA's transmission line to the aluminum plant are located 75 feet south of the existing centerline of US 2. The proposed action will require that fill slopes be adjusted to minimize or avoid impacts to these structures.



Photo 1



Photo 2



Photo 3



Photo 4

the Flathead Electrical Co-op cross or parallel the highway at 15 locations from Columbia Heights to Badrock Canyon. An electrical substation is located near the existing highway between Badrock Canyon and Hungry Horse.

Montana Power Company Facilities - A 10-inch diameter natural gas transmission line owned by the Montana Power Company parallels the edge of the highway through Badrock Canyon and crosses the highway corridor west of Hungry Horse. A natural gas distribution line crosses US 2 in Columbia Heights and parallels the highway in the Monte Vista Subdivision.

Northwestern Telephone Systems Facilities - Both overhead and buried telephone lines operated by Northwestern Telephone Systems parallel the existing highway through most of the corridor. There are 11 overhead telephone line crossings of US 2 between Columbia Heights and Hungry Horse. **A fiber-optic telephone cable was recently installed in the project area. This cable could be encountered in Badrock Canyon where it exists in a ditch along the south side of the highway.**

Private Facilities - A privately-owned community water system, serving 28 homes, is located immediately south of US 2 in Columbia Heights.

4. ECONOMIC CONDITIONS IN THE PROJECT AREA

Project Area Economy - Kalispell, Whitefish, and Columbia Falls have each developed unique but interdependent economic bases. Kalispell is the major retail trade center for the region as well as the agricultural service center and government base for the County. Whitefish is recreation-oriented community and Columbia Falls hosts the primary industrial employer in Flathead County.

The economy of the project area is most closely tied to Columbia Falls for employment and services. There are currently some **18** businesses operating in the corridor including restaurants, gas stations, motels, specialty shops, **auto sales lots**, and some light industrial/manufacturing activities. **Visitors to Glacier National Park and other tourist attractions will continue to play an important role in the success of many businesses in the corridor.**

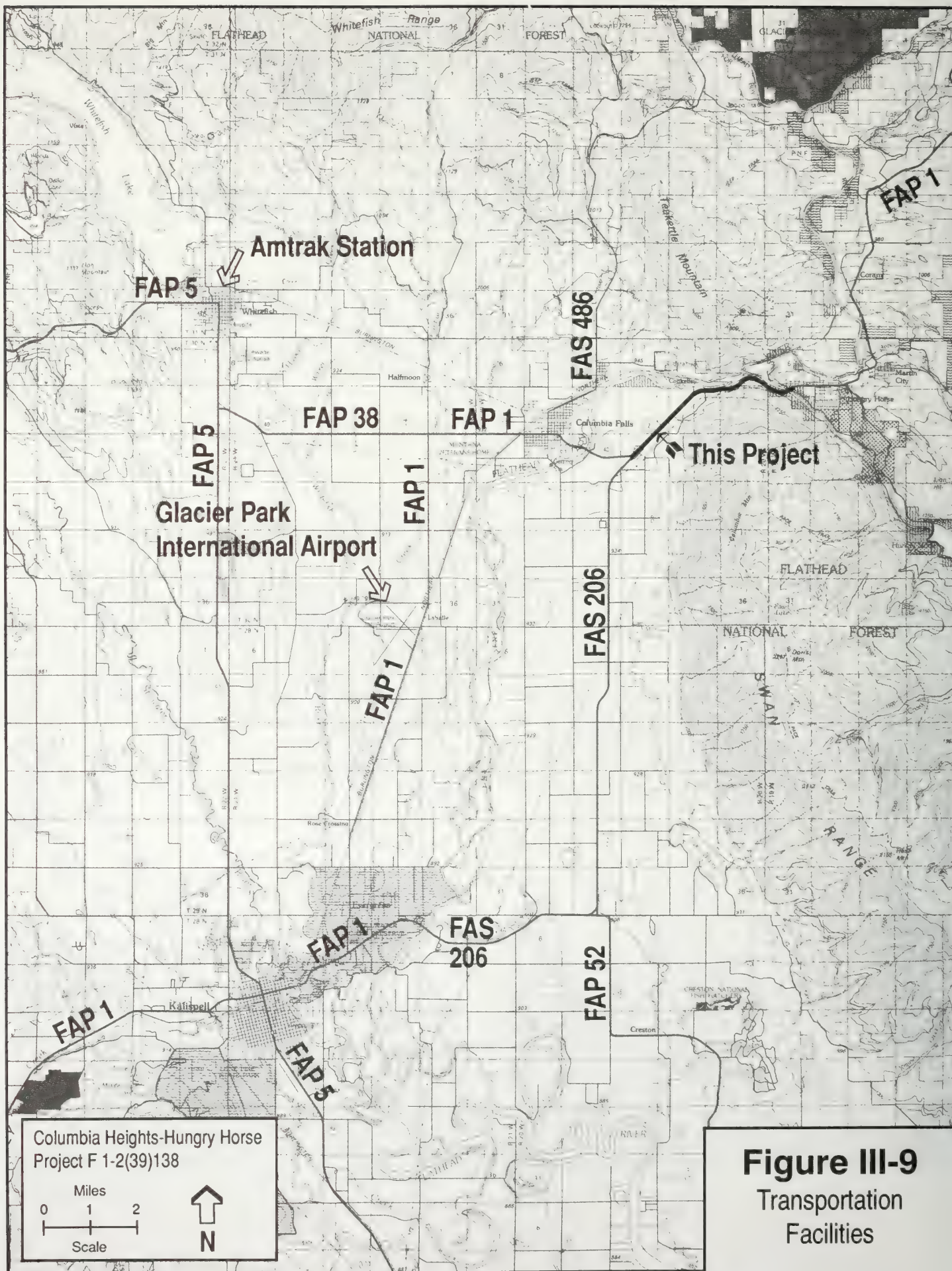
Hungry Horse will continue to depend upon the seasonal trade generated by visitors to Glacier National Park, Hungry Horse Reservoir, and surrounding wild lands.

5. TRANSPORTATION SYSTEMS

Roads - **FIGURE III-9** shows the major roads in the general project area. This system includes local roads and streets, collectors, and arterials.

Air Service - Glacier Park International Airport serves the aviation needs of the project corridor. The airport, located adjacent to US 2 some six miles southwest of Columbia Falls, accommodates both general aviation, air freight, and commercial passenger service. The *Montana State Aviation Systems Plan* forecasts that commercial passenger enplanements at Glacier Park International Airport will double by 2005 (**22**). Continued growth in the tourism industry in Flathead County is a major contributing factor for projected increases in commercial passenger activity at the airport. **FIGURE III-9 shows the location of the airport relative to the proposed action.**

Rail Service - Passenger rail service to the Flathead Valley is provided by AMTRAK which operates eastbound and westbound trains each day. The nearest passenger station, **shown on FIGURE III-9**, is located in Whitefish. Burlington Northern provides freight service to the project area.



Public Transportation - Connections with intercity and charter passenger bus services are available in Kalispell and Whitefish. School District Six transports students along routes which follow US 2, Berne Road, and Monte Vista Drive in the general project area.

6. PEDESTRIAN AND BICYCLIST FACILITIES

Existing Facilities and Use - The existing highway receives limited use by pedestrians and bicyclists, primarily due to a lack of facilities for these users. Scoping comments indicated a need for pedestrian facilities in Columbia Heights, where children must cross US 2 to meet school buses. The Big Sky Waterslide, located just west of Columbia Heights, is a popular destination for young residents of the corridor.

These pedestrians must cross US 2 or FAS 206 to reach the seasonal recreation site. There are no designated highway crossings or sidewalks in Columbia Heights. Sidewalks were constructed through Hungry Horse during previous improvements to US 2.

Bicyclists on US 2 must use the 1- to 2-foot wide paved shoulder or travel lanes for riding through the project area. Although there are no counts available to quantify such use, **the** highway receives substantial seasonal travel by bicycle tourists en route to or from Glacier National Park. Local commuters and recreational riders are thought to account for a smaller percentage of bicyclist traffic on US 2 than long distance bicycle tourists.

Bicyclist and pedestrian facilities on adjacent sections of US 2 vary. Between Columbia Falls and Columbia Heights, such traffic must use the highway shoulder for travel. A separated bicycle path parallels US 2 from Hungry Horse to Coram. From Coram to West Glacier, bicyclists or pedestrians must again use the highway shoulder for travel.

Bikecentennial, a national bicycle touring association, included US 2 as part of its 390-mile Great Parks North Bicycle Route between Missoula, Montana and Elko, British Columbia. The map of the route advises bicycle tourists of heavy traffic during the summer on roads into Glacier National Park. The group also advises bicyclists to ride early in the day and avoid travel on weekends. Bikecentennial's Washington to Minnesota Bicycle Route map bypasses the project area "to avoid some of the hectic tourist traffic near Glacier Park" (23).

A review of motor vehicle accident records for the period between January 1, 1983 and December 31, 1990 showed that no bicyclist or pedestrian accidents occurred within the corridor. One accident involving a bicycle was recorded at MP 142.8 on the west edge of Hungry Horse during 1987.

7. HAZARDOUS WASTE SITES

The National Priorities List (NPL) for Montana established by the EPA was obtained from the MDHES, Solid & Hazardous Waste Bureau and reviewed to identify any known hazardous waste sites in the project area. There are no NPL sites located in or near the project corridor (24).

In 1985, the Montana Legislature passed the Environmental Quality Protection Fund Act, more commonly known as the Mini-Superfund Law. This law authorized MDHES to investigate and clean up, or require those responsible to investigate and clean up hazardous waste site which are not on the federal Superfund NPL. Three known hazardous waste sites are located in the Columbia Falls area which fall under the State's Superfund program. These sites include the Anaconda Aluminum Company, Beaver Wood Products, and Larry's Post and Treating Company (24). None of these sites are located in the vicinity of the proposed action.

Two gas station/convenience stores located adjacent to US 2 are currently in operation in Columbia Heights. The MDHES Underground Storage Tanks Section has no record of leaking underground fuel storage tanks at the gas stations in Columbia Heights (25).

E. Cultural, Recreational and Visual Environment

1. CULTURAL RESOURCES

Cultural Resources Investigations - Historical Research Associates (HRA) of Missoula, Montana performed a cultural resources survey of the project corridor during October, 1989. Two historical properties, identified as 24FH419 and 24FH420, were located in Badrock Canyon. **24FH419 included the archeological remains of a building, a small refuse dump, and a linear rock alignment associated with the Freida Wilkes Herrig homesite and later sold to Billy Berne. 24FH420, a carving consisting of the date " 1908" and the letters "LEO" located on the face of a bedrock outcrop along the south side of US 2 in Badrock Canyon.** Neither of these properties were determined to be eligible for the National Register of Historic Places.

A supplemental cultural resources survey **was conducted** on lands near the House of Mystery during October, 1991. This investigation discovered one historical property (24FH455), **the remains of a small logging operation**, and two prehistoric cultural properties (24FH453 and 24FH454) **consisting of scattered lithic flakes and fire-cracked rock**. Through site testing and other evaluations, none of the properties were **determined** eligible for the National Register.

Remnants of an old road dating from near the turn of the century exists at the west edge of Badrock Canyon and crosses the southern portion of the Berne homestead (24FH419). The transcript of a 1983 interview with Ted Ross, a long-time area resident of the area, indicated that the Great Northern Railroad built the roadway, locally known as the "tote" road, through Badrock Canyon for their own transportation needs by blasting through the rocks on the lower reaches of Columbia Mountain (26). Ross also alludes to the presence of an old Indian trail that passed through the steep cliffs of the canyon that pioneers in wagons traversed with great difficulty.

Several comments on the Draft EIS expressed concern that the proposed action would cause substantial impacts to the portion of the "tote" road that remains in the outcrops above Berne Memorial Park. In response to these concerns, an evaluation of the historical road was completed by HRA in May, 1994. The evaluation included a field review by an archaeologist to determine where evidence of the road is visible, what portions had been previously affected by other activities, and what portion of the road would be affected by the proposed action. HRA's work also included the preparation of site specific descriptions of the "tote" road (identified as 24FH583) and a compilation of background material pertinent to the history of the road.

HRA's research indicates that a remnant of the "tote" road approximately 2,100 feet in length, exists on the lower slopes of Columbia Mountain directly above Berne Memorial Park. The "tote" road was originally built in 1890-1891 as a supply route for transporting material for construction of the Great Northern Railroad. The "tote" road served as a travel route through Badrock Canyon until it was replaced by a less severe roadway in 1911. Other portions of the "tote" road have been lost due to the previous construction of roads and utilities through Badrock Canyon.

With the exception of its east and west ends, the "tote" road is in good condition and can be easily followed. Several features relating the construction and use of the "tote" road, including trees bearing rope scars, fragmented stone retaining walls, dynamite bore holes, and a wooden pry bar, exist along the remaining section of the road. Based on this additional research and field evaluations, the "tote" road (24FH583) was determined eligible for the National Register of Historic

Places due to its associations with the building of the Great Northern Railroad and early road engineering.

Field investigations show that the section of "tote" road affected by the project is located to the west of the outcrop forming the west end of Badrock Canyon. The affected section of the "tote" road is shown on detailed graphics included with Part V of this document.

Copies of the cultural resource surveys for this project are available for review in Helena. Further discussion of these resources is contained in Parts IV and V of this document.

South Fork of the Flathead River Bridge - The bridge over the South Fork of the Flathead River at Hungry Horse is a steel girder and floor beam structure built in 1938. It was one of 137 bridges erected in Montana that year and is one of four steel girder and floor beam bridges located in Flathead County. In accordance with a Programmatic Agreement **between the FHWA, the Advisory Council on Historical Preservation (ACHP), the Montana State Historic Preservation Office (SHPO), and MDT regarding historic roads and bridges signed in 1989**, the bridge was not evaluated for its potential eligibility on the National Register of Historic Places; nor was it recommended for inclusion in the Montana Historic Preservation Plan for Roads and Bridges.

There are presently 98 steel girder and floor beam bridges located on Montana's Interstate, Primary, and Secondary road systems. The first such bridge was constructed in 1909 and the last in 1988. All retain original design features, except for 14 of the bridges that have been rehabilitated. Due to the large number of similar bridges that remain in service on the State's highway system and the widespread use of the structure's design, the South Fork Bridge at Hungry Horse has no particular qualities that would recommend it for inclusion in the Historic Preservation Plan. Another similar bridge that has the potential to remain in use for a longer period of time will be recommended for inclusion in the Plan as a representative example of steel girder and floor beam bridges.

Further discussion of the historical significance of the South Fork Bridge is contained in APPENDIX 12. **Additionally, a copy of the Programmatic Agreement regarding historic roads and bridges in Montana is provided for the interested reader in APPENDIX 12.**

Native American Importance of Badrock Canyon - An interpretive sign at Berne Memorial Park describes Badrock Canyon as the site of a battle between the Blackfeet and Flathead Tribes. **The Cultural Committees of the Salish, Kootenai, and the Blackfeet Tribes were contacted for information about the alleged battle and to determine if Badrock Canyon held other culturally sensitive areas that could be affected by the proposed action. Representatives of the Cultural Committees could not place the battle at a specific location in Badrock Canyon. Tribal representatives indicated that the proposed action would not affect sensitive sites in Badrock Canyon. Tribal movements through the area and in Badrock Canyon have been documented by the historical record and by information provided by tribal representatives.**

As a result of comments on the Draft EIS, further investigations about the site of the Indian battle referenced by the historical marker in Badrock Canyon were performed. Research showed that historical records make no references to a battle in Badrock Canyon in Flathead County prior to the installation of the historical marker on US 2 in 1938. The records showed that another "Bad Rock" exists in Sanders County along the Clark Fork River between Plains and Thompson Falls. The historical record contains references to Bad Rock as early as 1809 and there are several accounts of violent confrontations between the Salish, Kootenai, and Blackfeet in this vicinity after that time.

Historical accounts indicate that the placement of the marker along US 2 prompted a response from

a long-time resident (H.P. Stanford) stating that the canyon was named for the tote road that passed over the mountain. According to Stanford, the Indian "battle" occurred near the Soldiers' Home in Columbia Falls sometime between 1840 and 1879 when the Piegan Blackfeet raided into the valley and were met by the Salish and Kootenai. The Piegans then retreated to Badrock Canyon along the north side of the canyon and took up positions midway up Teakettle Mountain.

Salish-Kootenai "historian" Olga Weydemeyer Johnson also reported an account of a battle in the Badrock Canyon area sometime around 1840. Johnson indicates that the Blackfeet were ambushed near the mouth of the canyon and driven toward Flathead Lake. Like Stanford's version, Johnson's narrative suggests that very little, if any, of the confrontation actually took place in Badrock Canyon. If this is indeed the case, the marker in Badrock Canyon may be located inappropriately.

Memos describing coordination efforts with the Cultural Committees and additional research about the Indian battle in Badrock Canyon are on file in Helena.

2. RECREATION

Developed Recreation Sites - US 2 provides access not only to Glacier National Park but to a variety of other public and private recreation sites in the area. These include:

- Big Sky Waterslide at Columbia Heights,
- the House of Mystery east of Columbia Heights,
- **Grizzly Go-Carts and Batting Cages** east of Columbia Heights,
- **Berne Memorial Park**, and
- roadside parks in Hungry Horse.

Dispersed Recreation - Numerous opportunities for dispersed recreation such as hunting, fishing, hiking, cross country skiing, floating, berry picking, and camping are available on public lands near the corridor. The area above Berne Memorial Park is occasionally used by hikers and picnickers.

Two USFS trails are accessible from US 2 in the project area. The trailhead for the Columbia Mountain trail may be accessed from the highway via Monte Vista Drive or Berne Road. Another trail which leads to Fawn Lake is accessed by a primitive road that joins US 2 near the South Fork bridge just outside Hungry Horse. The USFS Hungry Horse Ranger District is in the process of upgrading both trails.

Flathead Recreational Waterway - The State of Montana designated the Flathead River above Flathead Lake, the North and Middle Forks, and the South Fork above Hungry Horse Dam as a Recreational Waterway in 1972. The State recognized the Flathead River and four other streams for their generally undeveloped nature, outstanding scenery, historical features, and increasingly heavy recreational use. The FWP has the administrative responsibility for the State Recreational Waterway System.

Within the project area, the Flathead Recreational Waterway flows adjacent to US 2 from Berne Road through Badrock Canyon to the confluence of the South Fork. The Flathead River can be most easily accessed at Hungry Horse and in Badrock Canyon where US 2 parallels the main stem of the river.

The primary uses of the Flathead Recreational Waterway are for fishing and floating. The FWP conducted a detailed census of fishermen on the main stem of the Flathead from May 16 - November 30, 1981 as part of a five-year baseline inventory of the resources of the Flathead Basin (27). The census determined

that fishing on the segment between Columbia Falls and Hungry Horse accounted for 3% of the total number of fisherman hours spent on the main stem of the Flathead during 1981 (28).

Information from the *State Comprehensive Outdoor Recreation Plan* showed that 56.7% of the population in FWP Region 1 (includes the project area) participated in fishing and about 15% of the residents floated or kayaked in the region during 1985 (29). More recent or specific data about recreational use of the Flathead River in the project area is not available.

Recreational Needs - The *Flathead County Master Plan* contains a list of recreational needs identified for residents of the Canyon communities. These needs include:

- a community center/gymnasium and athletic fields,
- a bicycle trail from Columbia Falls to West Glacier, and
- cross-country ski areas in the Canyon.

3. VISUAL RESOURCES

Existing Landscape - The project corridor is situated at the eastern edge of a broad valley surrounded by mountains. The corridor is located about 15 miles southwest of Glacier National Park, which is highly acclaimed for its natural scenic value and visual quality. During 1979 and 1980, a local group initiated a campaign to designate US 2 between Badrock Canyon and West Glacier as the "Badrock Canyon Scenic Corridor". The group wanted **official recognition** of the scenic qualities of the corridor and its role as the entrance to wildlands in and around Glacier National Park. To date, the route has not been designated as a scenic corridor by any state or federal agency.

Two landscape units, identified as the Columbia Heights and the Badrock Canyon landscape units, have been used to describe the existing visual setting and to analyze the impacts of the proposed action on that setting. The landscape units were defined based on the abrupt changes in the density of manmade development and topography that exists within the project corridor. These units are described below.

Columbia Heights Landscape Unit - The Columbia Heights landscape unit, generally extends from the project's beginning to the mouth of Badrock Canyon (about MP 140.5). The unit is characterized by flat to gently rolling terrain bordered by steep mountains. Columbia and Teakettle Mountains are the dominant features in the unit. The primary water resources visible in the unit are isolated wetlands adjacent to the existing highway. The Flathead River is not apparent until about Berne Road. Vegetation on flat lands adjacent to the road consists of grasslands used for pasture or hayland interspersed with stands of cottonwoods, aspens, and conifers. Spotted knapweed is present on the river benchland near the House of Mystery. Manmade development in the Columbia Heights landscape unit includes the existing highway, large BPA overhead powerlines and support towers, railroad facilities, roadside commercial development, billboards, and scattered residences.

Badrock Canyon Landscape Unit - The Badrock Canyon landscape unit extends from the mouth of the canyon to the project's end in Hungry Horse. The existing highway parallels the south side of the Flathead River through this unit. The dominant natural features in this unit are the steep south rock face of the canyon in the vicinity of Berne Memorial Park and the Flathead River itself. Thick forest cover exists along both sides of the highway east of Berne Memorial Park to Hungry Horse and generally obstructs views of the river. Riparian cottonwoods and conifers are located between the existing highway and the river at the park. Manmade development in this unit includes the existing road and bridge over the South Fork of the Flathead, railroad facilities, a roadside park, overhead utility lines, and residential and commercial development on the edge of Hungry Horse.

Views from the Road - Views from the road are seen by motorists, bicyclists, and pedestrians using the existing highway. The character and quality of these views change notably as viewers pass through the project corridor. The existing visual quality in the Columbia Heights landscape unit is low due to the presence of roadside commercial and residential development, overhead utility lines, and billboards. These features detract from the background views of distant peaks in Glacier National Park. Between Columbia Heights and Badrock Canyon, the quality of views from the road increases as suburban development decreases. Roadside areas are unified by moderately dense timber stands and pasture or haylands. At an average travel speed of 40 to 50 mph, motorists and other highway users are exposed to views in the Columbia Heights unit for less than four minutes.

The quality of views from the road in the corridor are highest in the Badrock Canyon unit as viewers are afforded quick glimpses of the Flathead River and mountain peaks in Glacier National Park and the Great Bear Wilderness. The timber and forest cover adjacent to the road provides a high degree of continuity. The rock cliffs and proximity of the river at Berne Memorial Park provide a substantial change in the landscape within this unit. Assuming an average travel speed of 50 mph, motorists and other highway users are exposed to views in the Badrock Canyon unit for about three minutes.

View of the Road - The major viewer groups that would see the road include: local residents, business patrons, and seasonal visitors, floaters and fisherman on the Flathead River, users of Berne Memorial Park, and AMTRAK rail passengers.

Views of the highway are low to moderately low for the 80 residents that live between Columbia Heights and Badrock Canyon due to commercial strip development and roadside utilities. The quality of the view for residents living between Columbia Heights and Badrock Canyon is higher due to dense timber and rolling terrain which often screens the road.

Users of Berne Memorial Park are afforded prolonged views of the nearby highway and Flathead River and distant views of the Flathead Valley and mountainous areas of Glacier National Park from vantage points in the cliffs of Badrock Canyon. Floaters, fishermen, and rail passengers are afforded brief views of the road only in Badrock Canyon because the terrain and vegetation screens the highway. The quality of the view for these groups is moderately high and dominated by Columbia and Teakettle Mountains. Floaters on the Middle Fork Recreational River segment and the main stem of the Flathead River are afforded brief views of the existing bridge over the South Fork.

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Part IV: Environmental Consequences

A. Introduction

Using the environmental conditions summarized in the preceding part as a baseline, this part evaluates the potential impacts of the alternatives proposed for this project according to the impact categories contained in the FHWA's Technical Advisory T 6640.8A. Other project specific impacts are also addressed in the following text. The impacts of the proposed action are discussed according to the same broad categories contained in Part III. The following sections describe the direct, indirect, and cumulative environmental effects of the proposed action.

B. Physical Environment

1. FARMLAND IMPACTS

Early Coordination - The SCS District Conservationist in Kalispell provided information about the project area soils and identified those soils associations that comprise locally important farmlands. Correspondence from the SCS about farmland (January 19, 1990) is included in Part VI of the EIS. **FIGURE III-1** in Part III shows the location of important farmlands in the corridor. The impacts of the proposed action on these protected farmlands must be addressed to ensure compliance with the Farmland Policy Protection Act (FPPA).

A Farmland Conversion Impact Rating Form (Form AD-1006) for the proposed action was processed in accordance with the FPPA. Since the Land Evaluation and Site Assessment scores on the form were less than 160 points, it was determined that the proposed action will convert farmland with low potential. Therefore, alternatives to avoid farmland impacts need not be evaluated. The completed form was not submitted to the SCS but is included in Part VI.

Direct Impacts - Based on the information provided by SCS and the right-of-way requirements for each of the build alternatives, the total areas of locally important farmland affected by the proposed action were calculated. Of importance to the FPPA are the areas of direct conversion of farmland. Direct conversions occur when farmland is lost to right-of-way. The acreages of farmland directly converted for each alternative is shown below.

ALTERNATIVE 1 - Direct Conversion = **39.2 Acres**

ALTERNATIVE 2 - Direct Conversion = **37.3 Acres**

ALTERNATIVE 3 - Direct Conversion = **34.1 Acres**

ALTERNATIVE 4 - Direct Conversion = **32.4 Acres**

ALTERNATIVE 5 - Direct Conversion = 0 Acres

Note that the no-action alternative requires no direct farmland conversion. The total amount of farmland that would be directly converted by the narrowest and widest build alternatives varies by less than 6 acres.

Indirect Impacts - The FPPA considers indirect conversions of farmland to include the areas remaining in a tract of land partially taken for right-of-way which (1) would no longer be capable of being farmed due to access restrictions; or (2) would likely be converted to a non-farm use due to the accessibility of the

highway. Based on these considerations, the build alternatives would indirectly convert between 1.1 and 1.4 acres of farmland.

Cumulative Impacts - The proposed action together with the impacts of other ongoing and future development activities in Flathead County, such as the proposed improvement of U.S. Highway 93 between Somers and Whitefish, will continue to convert minor amounts of farmland to other uses. Over time, these conversions could represent a major loss of important farmland in the county.

2. IMPACTS ON GEOLOGIC FEATURES OF BADROCK CANYON

Direct Impacts - The proposed action would excavate part of a large rock outcrop located in Berne Memorial Park at the west end of Badrock Canyon. The outcrop consists of Precambrian rocks associated with the Grinnell Formation. The rock encountered at this location includes very hard green-gray, purple, and red-purple fractured argillite. Outcrops from 25 to 60 feet high exist in the area affected by the proposed action. The outcrop that must be excavated to improve the horizontal alignment of the highway is adjacent to the south side of US 2 at the extreme west end of the park. At its closest point, the base of the outcrop is less than 70 feet from the Flathead River.

The four-lane build alternatives would require excavating the outcrop for a distance of about 1,100 feet along the roadway. The height of the newly exposed rock cut for these alternatives would range from 25 to 150 feet along the area of excavation. Standard Sheet No. 110 in the *Road Design Manual* indicates that cut sections in rock may be designed to be as steep as the rock structure allows, but most rock cuts are designed to ¼:1 slopes. Using a ¼:1 maximum slope as a design guideline, an estimated 103,000 cubic yards of rock would have to be excavated from the outcrop to accommodate the four-lane build alternatives. Following excavation, the base of the new rock face would be about 120 feet from the Flathead River at its nearest point.

The two-lane build alternatives would require that the outcrop be excavated for a distance of some 900 feet along the new roadway. The height of the exposed rock cut for the two-lane alternatives would range from 30 to 140 feet in this area of excavation. Calculations show that building the two-lane alternatives would require the removal of about 82,500 cubic yards of rock from the outcrop. After the completion of the excavation necessary for the two-lane alternatives, the base of the new rock face would be 110 feet from the river at its nearest point.

A study of the geological conditions present in west outcrop in Badrock Canyon was completed during October, 1994. The geologists who prepared the study identified and mapped rock structures in the outcrop and evaluated the preliminary rock slope design prepared for the Draft EIS. As a result of the study, geologists indicated that vertical cut sections could be developed through portions of the outcrop. The amount of rock to be removed and the overall height of rock cuts could be reduced somewhat in areas where vertical cuts were used. The study also recommended that the shoulder of the road be designed to include a rockfall catchment ditch at the base of the excavated outcrop and that a rockfall protection barrier, like a "jersey" barrier rail. Further, geologists recommended that rock stabilization and protection measures like drilling horizontal drainage holes, removing loose rock to eliminate potential rockfall, and rock bolting be included in the design of the rock cut.

Usually, before rock can be excavated it must be broken into pieces small enough for efficient handling by available equipment. Blasting is commonly used to loosen rock so that it may be excavated or removed from its existing position. If the rock in Badrock Canyon is substantially fractured (rippable), large dozers could also be used for excavation. A more detailed geotechnical investigation of the outcrop would be completed during the design phase of the project to determine the rippability of the outcrop and to provide information necessary to develop a plan for

excavation.

Blasting is accomplished by discharging explosives that have been placed in holes drilled in the rock formation with rotary or percussion drills. The energy associated with an explosion is the result of the pressure produced in the gases formed by the explosive in the blast hole. An electric current is used to detonate explosive charges placed in a series of blast holes along the outcrop. Excavation of the outcrop would be accomplished through presplitting and production blasts.

Presplitting, a technique using drilling and blasting which breaks the rock along a relatively smooth surface along the final slope or wall face, would be used for excavating the outcrop in the Canyon. Holes are drilled along the desired final surface at regular spacings and loaded with dynamite. When the explosives are detonated ahead of the production blast, the webs between the holes will fracture, leaving a surface that serves as a barrier to shock waves from the subsequent blast. This virtually eliminates breakage beyond the already fractured surface.

Due to the height of the outcrop in Badrock Canyon, rock would be excavated incrementally from the top of the outcrop towards the base. This type of excavation is known as a multi-lift cut. Some 20 to 25 vertical feet of the outcrop would be presplit and excavated at a time. Rock broken through blasting would be removed from the initial excavation level so presplitting and production blasting for the subsequent lower level could be undertaken.

In blasting operations where multi-lift cuts are necessary, it is necessary to scale the wall and remove loose materials immediately after the blast. This action prevents loose rock from falling and injuring workers during excavation activities or occupants of vehicles passing by the cut after completion of the project. The time required for excavation of the outcrop would depend on the type and amount of equipment used and the labor force assigned to accomplish the work. Large earthmoving equipment and dozers could be expected to reduce the amount of time required to excavate the outcrop. The Geotechnical Section estimates that approximately 1,000 cubic yards of rock could be excavated each day by an experienced contractor with the proper equipment and labor force. Given this rate, between 80 and 100 days would be required to complete the excavation necessary for the build alternatives.

Various types of explosives including dynamite, TNT, and several forms of ammonium nitrate explosives are used to excavate rock. Ammonium nitrate explosives are often used for construction projects both above the surface and underground. ANFO, the most frequently used ammonium nitrate explosive, is made by blending about 1 gallon of diesel fuel with 100 pounds of ammonium nitrate fertilizer. The free-flowing mixture can be poured into vertical blast holes or placed in sealed plastic bags if used in wet holes. This blasting agent is commonly used due to safety, ease of storage and handling, bulk loading capabilities, and the relatively low cost compared to other high explosives. High explosives (like dynamite) rather than ANFO are generally used for presplitting.

The direct impacts of excavation on the visual resources of Badrock Canyon are discussed in the Visual Impacts section of Part IV.

Indirect Impacts - Blasting to excavate the west outcrop in Badrock Canyon would produce several indirect impacts including noise and vibration impacts, traffic delays during blasting and clean-up activities, and the loss of vegetation on portions of the outcrop where excavation would occur. These impacts are discussed further under the Construction Impacts section in Part IV.

Excavation could affect a spring that surfaces on the outcrop. Residual nitrates from the explosives used to excavate rock in Badrock Canyon have the potential to degrade surface waters in the project area. These impacts are discussed further in the Water Quality Impacts section of Part IV.

Cumulative Impacts - The excavation of the outcrop at the west entrance to Badrock Canyon would eliminate a substandard horizontal curve which restricts sight distance for motorists. The improved alignment of the new highway would be expected to provide safety benefits for facility users.

A geotechnical study of the west outcrop in Badrock Canyon done after the Draft EIS indicates that the present rock structure provides a hazardous rockfall potential for the existing road and for the proposed construction. The inclusion of rock stabilization measures in the design of the new rock cut and the removal of loose rocks (scaling) during construction would minimize or eliminate the potential for rockfall in this area. Other rock stabilization work or excavation on the upper cliffs of the west outcrop outside of the area disturbed by road construction may also be needed to reduce the potential for rockfall.

Mitigation - Measures to mitigate the potential water quality impacts, visual impacts of rock excavation, and construction impacts of blasting are discussed in subsequent sections of Part IV.

3. WATER QUALITY IMPACTS

Direct Impacts to Surface Waters - Highway reconstruction activities and the subsequent operation of the new facility could adversely affect the quality of surface waters in the project area unless preventative measure are taken. Degradation of surface water quality in the project area could potentially occur by means of physical or chemical pollution.

The major type of physical pollution from the construction or operation of highway facilities is the erosion of rock or soil particles and dissolved minerals and the subsequent transport of these materials by surface waters to downstream locations where the materials are deposited. This process, known as sedimentation, occurs naturally, however, the erosion of areas disturbed by the construction could contribute substantial quantities sediments to surface waters. Increased sediment loads may alter downstream deposition patterns, cause water temperatures to increase, cause the turbidity of the water to rise, increase the level of nutrients (nitrates and phosphorus), decrease the quality of existing fisheries, and promote the growth of algae.

Chemical pollution of water from highway sources could potentially occur from the following sources:

- herbicides used for weed control or fertilizers,
- mineral leachates from newly exposed slopes,
- toxic substances, heavy metals, oils and grease from the roadway surface,
- deicing chemicals, and
- accidental spills of hazardous materials.

Runoff from the highway may carry residues from these sources or from accidental spills into surface waters.

The degradation of surface waters due to the placement of fill materials directly into the Flathead River is the primary direct water quality impact associated with the proposed action. In this instance, placing fill into surface waters includes excavating areas below the ordinary high water mark and along the bank of the Flathead River in Badrock Canyon to construct a vertical retaining wall, placing fill in isolated wetlands, and excavating the river bed to construct piers for a new

bridge across the South Fork of the Flathead River west of Hungry Horse.

The potential impacts resulting from the activities associated with the proposed action were evaluated according to Section 404(b)(1) guidelines found in Title 40 or the Code of Federal Regulations (CFR), Part 230. These guidelines were developed by the Environmental Protection Agency (EPA) and the COE in response to policies expressed in the Clean Water Act. Fundamental to the guidelines is the rule that dredged or fill material should not be discharged into the aquatic ecosystem unless it can be demonstrated that such a discharge will not individually or collectively induce unacceptable adverse impacts on ecosystems of concern. Evaluating the impacts of placing fill material in the Flathead River system according to the 404(b)(1) guidelines is necessary to obtain a Section 404 permit for the proposed action.

A Draft Section 404(b)(1) Evaluation examining the effects of the proposed action according to the guidelines is presented in APPENDIX 14 of the Final EIS. Baseline water quality data and information on the aquatic ecosystem considered in the evaluation is presented in APPENDIX 5. Pertinent findings from the Draft Section 404 (b)(1) Evaluation are summarized below.

Substrate Impacts - The proposed **reconstruction activities** would not substantially change the physical, chemical, or biological characteristics of the native substrate. The construction of the **retaining wall and bridge piers** would place relatively inert materials (like concrete) in the Flathead River system and fill material to be placed in wetlands would be generated from locations within the project corridor. The discharge would remove only minor amounts of habitat for bottom-dwelling organisms since project activities would be confined to a narrow strip along the south river bank of the Flathead River in Badrock Canyon and to a limited number of areas within the channel of the South Fork of the Flathead River.

The proposed action would not adversely affect the elevation or slopes of the main stem of the Flathead River or the South Fork of the Flathead River.

Suspended Particulates/Turbidity - Modeling has shown that long-term suspended particulates and turbidity impacts would be minimal. Suspended solids levels in the Flathead River are predicted to increase by less than one part per billion for any build alternative. This increase would not be substantial.

During construction, short periods of **increased sediment transport could occur** due to runoff from cleared work areas **during large precipitation events**. If turbid conditions lasted long enough, elevated levels of suspended particulates could affect the biological productivity of fish and other subsurface life, however, no long lasting increases in turbidity levels and sedimentation rates are expected.

Water Characteristics - The proposed action would not substantially change water characteristics in the Flathead River. The **concrete used in the retaining wall or fill materials placed in wetlands** would not introduce nutrients or organic materials which would change the suitability of the Flathead River system for consumption and use by aquatic organisms or humans.

No changes in water chemistry or pH levels are predicted as a result of the proposed action.

Current Patterns and Circulation - The **construction of a vertical retaining wall** would not obstruct or change the direction of flow in the Flathead River **through Badrock Canyon**. The restriction caused by the **retaining wall** in Badrock Canyon would reduce the width of the river channel and cause a minor increase in flow velocities. The change in channel width produced by the **vertical retaining wall** would be **considerably** less than that imposed by a natural channel

constriction (Fisherman's Rock) located immediately downstream from the fill section. **Minor and localized changes in current patterns are likely in the vicinity of the retaining wall and bridge piers.**

The new bridge over the South Fork of the Flathead River would have one less pier than the existing structure. This would alter the current pattern in the South Fork by reducing the number of piers that obstruct flows in the river. Temporary obstructions to the flow in the South Fork of the Flathead River would occur during construction of the new bridge since the new piers and the piers for the existing bridge would be located within the river channel. This condition would be eliminated upon completion of the new bridge when the existing structure is removed.

Normal Water Fluctuations - Power generation at Hungry Horse Dam upstream from the project area causes drastic fluctuations in flows on the South Fork and affects the water level of the Flathead River. **The proposed construction of a vertical retaining wall and new bridge piers would not** alter the daily or seasonal fluctuations of water levels in the Flathead River system.

Salinity Gradients - The discharge of fill would not alter salinity gradients since inert aggregate would be used. Surface water quality could be directly affected by snow removal activities in areas of the corridor located immediately adjacent to the Flathead River.

Snow plowing could introduce pollutants, particularly road salts, directly into the river since no vegetation would be available to attenuate pollutants. The runoff model used to predict the effects of the proposed action on surface water quality does not directly consider snow removal. However, the results of modeling indicates that effects of pollutants plowed into the river during snow removal would be minimal. This conclusion can be made because the model assumed that all pollutants, including road salts, from the corridor would enter the Flathead River during a single precipitation event and would be diluted by river flows during the runoff period for the event. Since no substantial increases in pollutant concentrations were predicted for this unlikely occurrence, it follows that the minor amounts of pollutants that would be introduced to the river during snow plowing would not substantially affect water quality.

This conclusion is further supported by the few areas within the corridor where pollutants contained in snow could be plowed directly into the river. Slopes adjacent to US 2 in the areas near the river would be expected to retain some plowed snow. Pollutants in this snow would be gradually introduced to the river from these roadside areas through melting and would reduce direct impacts on water quality.

No special aquatic sites **(other than several isolated wetlands)** would be affected by the proposed highway reconstruction. None of the wetlands affected by the proposed action provide important water quality values for local surface waters. The impacts on wetlands are subsequently discussed in Part IV. **No municipal or private water supplies would be adversely affected by the proposed action.**

Indirect Impacts to Surface Waters - Surface water quality can be **indirectly** degraded by contaminated highway runoff. Stormwater runoff from the pavement surface contains organic and inorganic chemicals and often appreciable quantities of suspended solids. These materials are primarily derived from combustion products, vehicle and pavement wear, and highway maintenance activities (1). During precipitation events and snow melting, runoff is collected in roadside ditches and transported to receiving waters via natural drainage ways. Precipitation patterns affect the washoff of pollutants from the pavement surface and the quantity of highway runoff. **The increased width of the paved surface area of US 2 provided by the build alternatives would result in greater quantities of runoff, more rapid runoff, and in less infiltration during events when heavy precipitation or rapid snowmelt occurs.**

Impacts to surface water resources were evaluated by modeling 16 runoff constituents and comparing the results with findings from similar highway corridors. The modeling procedure contained in *Constituents of Highway Runoff -- Volume III, Predictive Procedure for Determining Pollutant Characteristics in Highway Runoff* was used to predict and evaluate surface water quality impacts for each alternative (2). Modeling indicates that the adverse impacts to surface water quality would be negligible for all build alternatives because the pollutant levels in stormwater would be diluted and attenuated by vegetation and soils before reaching a receiving watercourse (3). The evaluation shows that pollutants contained in runoff from the highway would not substantially increase the concentrations of total solids, nutrients, chlorides, or heavy metals in the river. **TABLE IV-1 summarizes the results of a runoff water quality analysis completed for the proposed action.**

**TABLE IV-1
SUMMARY OF RUNOFF WATER QUALITY ANALYSIS**

Constituent Examined	Amount of Constituent in Runoff From Road Surface in Highway Corridor (lbs)			Resulting Change in Constituent Concentration in River (mg/L)		
	1988	1992	Design Year	1988	1992	Design Year
Suspended Solids (SS)	78.7	100.8	166.2	0.00068	0.00087	0.0014
Volatile SS (VSS)	18.7	22.9	35.4	0.00016	0.00020	0.00031
Total Volatile Solids (TVS)	83.2	105.3	170.7	0.00072	0.00091	0.00148
Total Kjeldahl Nitrogen (TKN)	1.67	1.88	2.52	0.000014	0.000016	0.000020
Total Organic Carbon (TOC)	18.7	23.4	37.3	0.00016	0.00020	0.00032
Chemical Oxygen Demand (COD)	32.1	38.1	55.8	0.00028	0.00033	0.00048
Total Nitrogen (TN)	0.71	0.84	1.21	6.1×10^{-6}	7.2×10^{-6}	10.4×10^{-6}
Total Phosphate (TPO ₄)	0.53	0.68	1.12	4.6×10^{-6}	5.8×10^{-6}	9.7×10^{-6}
Chloride (Cl)	51.3	60.6	88.2	0.00044	0.00053	0.00076
Lead (Pb)	0.12	0.15	0.23	1.0×10^{-6}	1.2×10^{-6}	1.9×10^{-6}
Zinc (Zn)	0.09	0.10	0.15	7.8×10^{-7}	8.7×10^{-7}	1.3×10^{-6}
Iron (Fe)	3.44	4.41	7.27	0.00003	0.00004	0.00006
Copper (Cu)	0.035	0.041	0.055	3.0×10^{-7}	3.5×10^{-7}	4.7×10^{-7}
Cadmium (Cd)	0.021	0.024	0.032	1.8×10^{-7}	2.1×10^{-7}	2.8×10^{-7}
Chromium (Cr)	0.055	0.071	0.12	4.8×10^{-7}	6.1×10^{-7}	1.03×10^{-6}
Mercury (Hg)	0.015	0.013	0.011	1.3×10^{-7}	1.1×10^{-7}	0.95×10^{-7}

The water quality analysis in TABLE IV-1 identifies the amount of various constituents generated by vehicles within the 4.5 mile long corridor that may be present in runoff from the highway. Three years were examined including 1988 with an ADT of about 4,700 (originally modeled for the Draft EIS), 1992 with an ADT of 5,720, and the design year (2010) with a predicted ADT of 8,850. The table also summarizes the resulting change in the concentration of each constituent in the Flathead River if the highway runoff were diluted in a 50.3 hours of river flow, the calculated period of runoff from a 2-year 24-hour storm.

Highway facilities with ADTs of less than 30,000 have been found to have minimal impacts to receiving water ecology based on an FHWA document titled *Effects of Highways on Receiving Waters, Volume 1 - Executive Summary* (4). The document concludes that annual pollutant loads from highways are low relative to loads from entire watersheds (5). Based on this general conclusion for similar projects, the proposed action, with a projected design year ADT of **8,850 vehicles per day**, should have minimal impacts on surface water quality.

The build alternatives will employ curbs and gutters and a piped storm drainage system to accommodate runoff in Columbia Heights. Stormwater collected by the system would create a point source discharge subject to regulation by the EPA and MDHES. The EPA allows such permits to be issued at the discretion of the state for point source discharges. MDHES has opted not to issue such permits for stormwater discharges and instead encourages water quality management through a set of published "Stormwater Runoff Guidelines" (6). Although no preliminary designs for the storm drainage system were prepared for the EIS, it was assumed that runoff collected from the system would be discharged into a detention basin rather than directly into surface waters. This would be consistent with the MDHES policy of non-degradation of surface waters.

Correspondence from the MDHES Water Quality Bureau (July 8, 1993) raised the concern that the proposed action could violate state nondegradation laws if substantial amounts of nitrogen from blasting compound residue enters surface or ground water. Agency concerns were based on the proposed placement of excavated rock from the outcrop in Badrock Canyon in the Flathead River and information showing that the use of explosives in surface coal mining operations caused increases in nitrate, nitrite, and ammonium in surface and ground water near some mine sites in Canada (7).

The principal concern for nitrogen in surface and ground water is that nearly all of it is ultimately oxidized to nitrate or used by the ecosystem to produce unwanted and excessive plant growth. This concern is relevant given recent information that indicates the waters of Flathead Lake are becoming enriched from polluting nutrients like phosphorus and nitrogen. These nutrients can contribute to cause algal "blooms" or encourage the proliferation of undesirable fish species in the Flathead River and Flathead Lake. Elevated nitrate levels in surface and groundwaters have been shown to be a cause of infantile methoglobinemia, a sometimes fatal disorder.

The biological productivity of most streams in the Flathead River system is low due to the absence of large amounts of soluble reactive phosphorus (SRP), biologically available phosphorus (BAP), ammonia, nitrates, and the scouring effect of suspended sediments on the stream bottom. Communities living on the substrate (algae, protozoa, bacteria, yeasts, and other organisms) under nutrient-deficient conditions will respond quickly to small ($\mu\text{g/L}$) changes in these nutrient concentrations. One $\mu\text{g/L}$ (microgram/liter) is roughly equivalent to a concentration of one part per billion.

A study of the potential for residual nitrogen (particularly nitrate) from blasting compounds to impact surface water in the project area was completed to address concerns expressed by

MDHES. The study examined three situations which could introduce residual nitrate to surface water including: 1) placement of rock containing residual nitrate directly into the Flathead River; 2) transport of nitrate bearing runoff from the excavated rock face to surface waters; and 3) transport of nitrate bearing water from piles of excavated rock stored in the project area to surface waters.

The study indicated that short-term water quality degradation could occur if excavated rock were placed directly into the Flathead River or if all nitrate bearing runoff percolating through a storage pile for excavated rock during a major precipitation event directly flowed into the Flathead River. The study also showed that changes in the level of nitrates in the Flathead River would be barely measurable for the other situations posed for the analysis.

Samples of Flathead River water taken at Columbia Falls indicate that nitrate levels naturally vary from 10 to 81 µg/L. These fluctuations vary throughout the year depending on the amount of flow in the river and the quantity of suspended sediments present in the water. Whether the predicted short-term increase in nitrate levels from the placement of excavated rock directly in the river represents a more adverse condition than that which occurs during periods when nitrate levels are "naturally" elevated must be considered by regulatory agencies.

The preferred alternative described in the Draft EIS would have placed excavated rock directly into the Flathead River to accommodate a change in the alignment of the highway. Following the review of comments on the Draft EIS, the preferred alternative for US 2 in Badrock Canyon was modified to include a vertical retaining wall instead of a riprap-faced embankment. This modification eliminates the need to place excavated rock in the river.

During their review of the Draft EIS, the MDHES Water Quality Bureau also expressed concern that highway construction could elevate phosphorus levels in the Flathead River. As with nitrates, the primary concern is the potential for this nutrient to contribute to the productivity of waters in the Flathead River and in Flathead Lake.

Water samples for the Flathead River at Columbia Falls shows that total phosphorus levels in the river vary from a minimum of 2.00 µg/L to a maximum of 151.00 µg/L, with a mean total phosphorus value of 17.31 µg/L. These levels change throughout the year depending upon the amount of flow and the amount of suspended sediments present in the river. Although phosphorus is present in the base rocks of the project area, most phosphorus is found in complex mineral constituents and does not readily dissolve into the river system. The erosion and transport of sediments containing phosphorus would be the primary way that this nutrient could be introduced to the river.

The most likely way that highway reconstruction could contribute to phosphorus levels in the Flathead River system is through erosion and transport of sediments from the project site. Phosphorus attached to sediments could be transported to the river by surface runoff over areas disturbed by construction or by runoff from the facility after the road is in use. The preferred alternative identified in the Draft EIS presented a situation in which fill materials with sediments containing phosphorus would be introduced directly into the river. The inclusion of a retaining wall in Badrock Canyon, as now proposed, would eliminate the direct introduction of sediments containing phosphorus to the river.

Direct Impacts to Groundwater - Groundwater hydrology **would** remain unaffected by the proposed alternatives since excavations **would** not expose or affect the groundwater table. All build alternatives are similar in their lack of direct impacts to the quality of local groundwater.

No EPA designated sole-source aquifers or wellhead protection areas **would** be impacted by the proposed action.

Indirect Impacts to Groundwater - Percolation of contaminated surface runoff water poses the primary indirect threat to groundwater. Since the runoff modeling predicted no adverse impacts to surface water quality in the Flathead River, it follows that no contamination **would** be present to reach the groundwater through river recharge.

All **build** alternatives **would** maintain the free-flowing spring and stone fountain at Berne Memorial Park in their present location. **A one-way traffic loop with controlled approaches to US 2 and a small parking area for users of the spring is proposed with the build alternatives.** Necessary grading and drainage provisions would be incorporated into the design of the area. A drawing of the proposed facilities at the spring are shown in **FIGURE IV-1**. This drawing attempts to illustrate the **proposed layout concept and access provisions for spring users** and is not meant to be the final design plan for this roadside area. **The final configuration for the traffic loop and parking area at the spring will be determined during the design of the project.** The amount of space available for development between the new road and the spring will determine the number of parking spaces that can be provided and how traffic will circulate through the roadside area.

Vibration effects from blasting during the excavation of the west outcrop in Badrock Canyon has the potential to affect the characteristics or the flows from the springs in Berne Memorial Park. Studies indicate that under normal blasting circumstances the likelihood for adverse effects on aquifers from blasting is remote, particularly if vibration levels produced by the blasts are below 2.0 inches per second (8). Blasting has been shown to actually increase the storage capacity of aquifers and improve the productivity of some water wells.

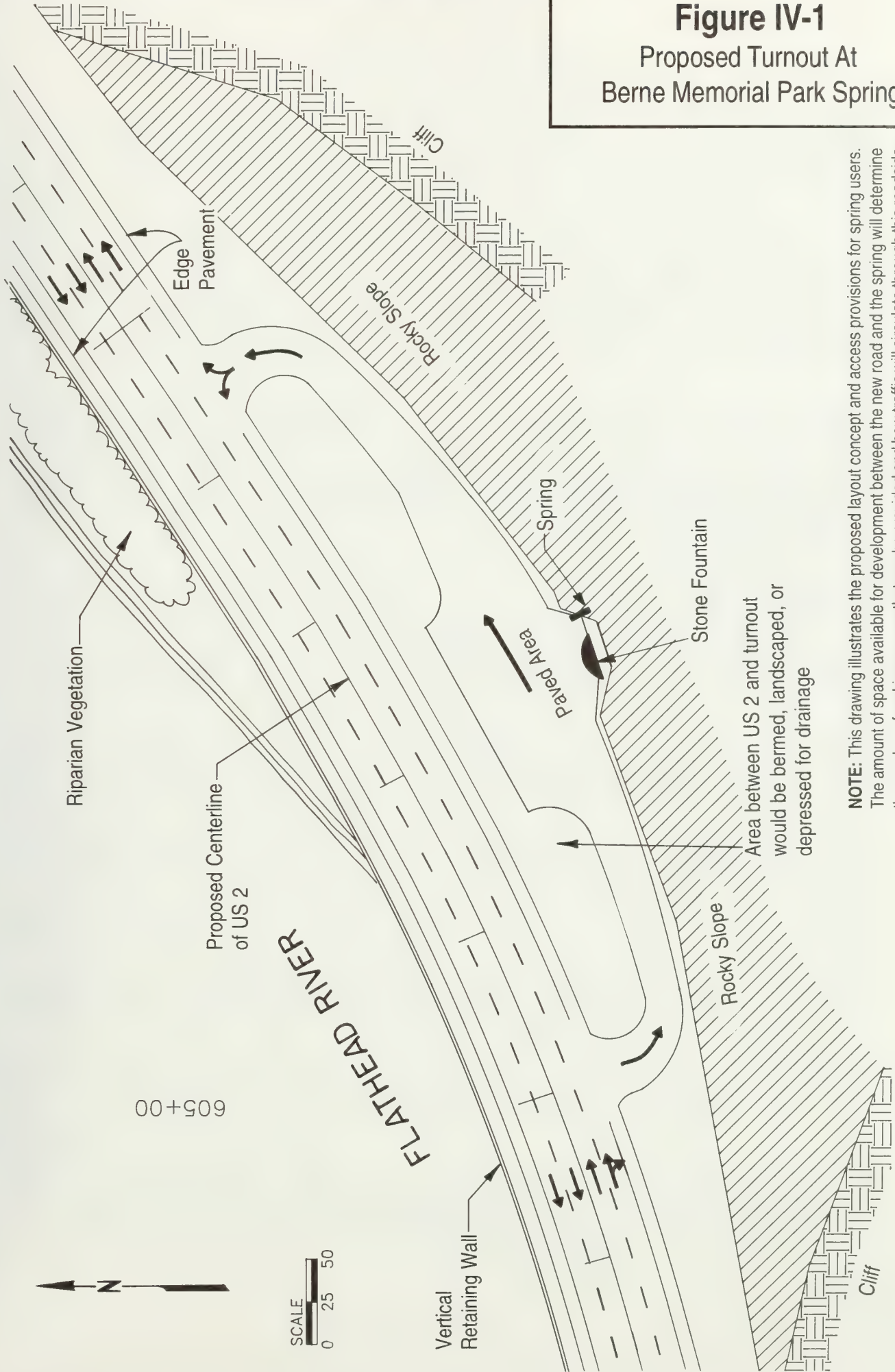
In Berne Memorial Park, a small spring surfaces above the west outcrop and seeps over the rock face. Excavation of the outcrop would not be expected to eliminate the source of water seeping over the exposed face of the rock cut. Excavation and blasting activities necessary to remove the outcrop would stop about 600 feet west of the free-flowing spring located near the stone fountain in Berne Memorial Park and are not expected to affect the flows of the spring.

Cumulative Impacts on Water Quality - The *Flathead Basin Commission 1991-1992 Biennial Report* indicates that researchers have found that the rapidly increasing human population of the region and associated development has undesirably affected the quality of waters and fisheries in the Flathead Basin (9).

The introduction of nutrients into the Flathead River system and ultimately to Flathead Lake represents the most notable concern for cumulative impacts on water quality. Nitrates and phosphorus attached to sediments could be transported from disturbed areas by surface runoff into local waters and contribute to increased biological productivity and decreased water quality in the river system and Flathead Lake. Studies have shown that activities associated with this project would not generate or introduce nutrients to local waters in quantities that would cause a substantial degradation of water quality. The MDHES Water Quality Bureau agreed with this conclusion in a letter dated March 23, 1994 contained in Part VI of the EIS. Measures implemented with the proposed action would control erosion and minimize or eliminate opportunities for sediments carrying nutrients to reach surface waters.

The impacts of the proposed action for other water quality parameters would be short-term or barely measurable. Since the proposed project would not substantially degrade local water quality, the contribution of this project to cumulative adverse impacts on the quality of surface or groundwaters in the region is minimal.

Figure IV-1
Proposed Turnout At
Berne Memorial Park Spring



NOTE: This drawing illustrates the proposed layout concept and access provisions for spring users. The amount of space available for development between the new road and the spring will determine the number of parking spaces that can be provided and how traffic will circulate through this roadside area.

Mitigation - Despite the **predicted** absence of surface water quality impacts, conformance to MDHES stormwater management guidelines is prudent for any alternative. The use of grassed waterways to convey highway runoff coupled with relatively long flow distances to the river will provide additional water quality protection.

Highway designers will use the *Highway Construction Standard Erosion Control Workplan* to identify Best Management Practices (BMPs) for control of erosion and sediment transport. The selection of BMPs will be based on the distance to surface water or wetlands, precipitation intensity, soil properties, slopes, and the presence of critical resources (like threatened or endangered species habitat, prime fisheries, cultural sites, and hazardous materials/wastes). APPENDIX 13 contains a description of appropriate BMPs based on a preliminary examination of soils, precipitation characteristics, and the presence of critical resources in the project area.

A Storm Water Erosion Control Plan, incorporating appropriate BMPs for the proposed construction project, will be developed and approved prior to the construction of the proposed project. The primary objective of the Storm Water Erosion Control Plan will be to minimize the erosion of disturbed areas and prevent the transport of sediments to wetlands or surface waters during the construction and post construction phases of the project. With the proper design, implementation, and followup actions, the BMPs will minimize erosion and the potential for sediments containing phosphorus to enter surface waters.

Nitrate losses from excavated rock to waters in the project area can be minimized by employing the following measures:

- Dewater the blasting area, if appropriate.
- Limit the time between blasting and loading holes.
- Increase the use of liners to retain ANFO within blast holes. This measure will help eliminate voids within the hole and prevent leaching by precipitation, groundwater, or moisture. Liners will maintain the proper amount of blasting agent within the hole to ensure a successful shot.
- Use "good housekeeping practices" by containing spills and employing appropriate methods to clean up spilled substances.
- Store explosive materials like ammonium nitrate well away from sources of water.
- Employ BMPs to retain water, reduce velocity, and promote revegetation. All of these practices create opportunities for oxidation and beneficial use by plants before nitrate carrying runoff could enter surface waters. The incorporation of BMPs will be done for this project in accordance with the *Highway Construction Standard Erosion Control Workplan*.
- Select a location for a temporary rock storage pile located away from surface waters and incorporate measures to retain runoff at the storage site.

The rock to be excavated in Badrock Canyon presents a good source of material for use in building the proposed highway. Rock containing nitrate residue generated through blasting could also be placed beneath the road at locations where groundwater would not contact the material. The material could also be crushed and used as aggregate for asphalt surfacing, if testing shows the rock is suitable for such use. Crushing the excess rock generated on the project and using the

material for road building is preferable to having to buy materials from other local sources.

Measures will be included to ensure that blasting does not produce vibration levels of sufficient magnitude to affect the springs in Berne Memorial Park. This can be accomplished through properly designed and controlled blasting and by monitoring the blasts with seismic recording instruments to measure the magnitude of blasting effects.

The installation of cofferdams and dewatering activities would be necessary to construct the vertical retaining wall in Badrock Canyon and the piers for the new bridge over the South Fork of the Flathead River. Materials excavated and water pumped from within the cofferdams would be transported to settling ponds to remove sediments. The placement of fill material will be subject to the issuance of a Section 404 permit by the Army Corps of Engineers. Part VI contains additional discussion of this permit requirement.

4. WILD AND SCENIC RIVER IMPACTS

Early Coordination - The Hungry Horse District Ranger was contacted about the Wild and Scenic River status of the Flathead River system near the project area. As a result of this coordination, it was determined that the existing highway passes through a small (**0.84 acres**) portion of the Flathead Recreational River Corridor as shown in **FIGURE III-4**.

The District Ranger also commented about the potential impacts on this Wild and Scenic River segment due to the proposed reconstruction of US 2. The District Ranger indicated that construction is unlikely to produce substantial impacts on the river values of the Middle Fork Recreational River Corridor (**10**). Copies of the District Ranger's letters (May 4, 1990 and March 12, 1991) have been included in Part VI of the EIS. A subsequent letter from the Acting Regional Forester (January 8, 1992) regarding the proposed action's possible effects on the Middle Fork Recreational River is also included in Part VI.

Comments received during the preparation of the EIS suggested that the Flathead Recreational River Corridor should be extended to include the reach of river that extends through Badrock Canyon. **A river segment can be added to the Wild and Scenic Rivers System in two ways. Congress can designate a river directly or it can authorize the Departments of Agriculture or Interior to study a river for its potential inclusion. A new river segment can also be designated by the Secretary of the Interior upon application from the Governor of the State of Montana, if the river segment meets certain eligibility requirements. To date, there has been no action undertaken by federal agencies or the state to add this portion of the river to the Flathead Recreational River Corridor. This segment of the Flathead River has already been designated as a Recreational Waterway by the Montana Department of Fish, Wildlife & Parks.**

As indicated in Part III, it is uncertain if an easement for US 2 exists on the 0.84 acres of land in the Recreational River Corridor affected by the proposed action. Plans for a previous improvement project on US 2 show the entire parcel of land to be within the existing highway right-of-way. Subsequent investigations have not produced an easement or deed for this property. If no easement exists for the highway, an application for an easement for the highway must be submitted to the USFS. Before such an easement can be granted, the USFS must prepare a Letter of Consent. This transfer of land would need to be completed prior to beginning construction on the proposed project.

The NPS is presently assisting eight agencies with management responsibilities for the Flathead River corridor in the development of the Flathead Multi-Objective River Corridor (MORC) Plan. The Flathead MORC Plan is a cooperative planning effort between Flathead County, the Flathead Basin Commission, the Flathead Regional Development Office, the Flathead Conservation District, the

Montana Department of State Lands, the Bureau of Reclamation, the COE, and the Flathead National Forest. The Plan covers the Flathead River corridor from the confluence of the South Fork and the main stem near Hungry Horse to the north shore of Flathead Lake.

The NPS is providing assistance to agencies participating in the Plan through the Rivers, Trails and Conservation Assistance Program, a non-regulatory federal program specifically established to help state and local governments and non-profit organizations develop their own plans for rivers, trails, and other resources. The goal of the Flathead MORC Plan is to recognize current and potential management concerns for the river corridor and recommend solutions as a group. The Plan could ultimately be adopted as part of the county master plan and regulatory structure for involved agencies. The planning process was initiated in early 1993 and is expected to be completed in two years.

Direct Impacts - If no easement exists for US 2, minor amounts of right-of-way must be acquired from the Middle Fork Recreational River Corridor to accommodate the build alternatives. The location of the centerline for the new highway would be slightly farther away from the river than that of the existing road. The no-action alternative **would not change the location of the highway within** the Middle Fork Recreational River Corridor.

The preliminary designs indicate that the construction limits for the proposed four-lane alternatives would extend some 20 feet towards the river (north) from the edge of the existing pavement. **Construction of the four-lane designs would affect 0.25 acres of the Recreational River Corridor.** The construction limits for the two-lane designs would be at or near the north edge of the existing pavement of US 2. **Construction of the two-lane designs would affect 0.11 acres of the Recreational River Corridor.**

Like the existing highway, the new facility would be visible from some portions of the Recreational River Corridor. Some vegetation adjacent to the existing highway in Badrock Canyon and near the South Fork Bridge would be cleared for construction of the **build alternatives**. However, a screen of cottonwood trees **and conifers would** remain between the Middle Fork Recreational River Corridor and the new highway for all build alternatives. The road's location above the river and the existing tree screen **would** make the new facility difficult to view from the Recreational River Corridor. The new bridge over the South Fork and its approaches **would** be visible from the River Corridor.

The proposed action **would** have no foreseeable adverse effects on the free-flowing nature, the setting, or the water quality of the Middle Fork Recreational River Corridor.

Publicly-owned waters of designated Wild and Scenic Rivers are protected under Section 4(f) of the Department of Transportation Act. Publicly-owned lands in the immediate proximity of such rivers may also be protected by Section 4(f) depending on the manner in which they are administered. Part V of this document considers the possible Section 4(f) impacts of the proposed action on the Middle Fork Recreational River and its management corridor.

Indirect Impacts - The development of a river access and interpretive site in conjunction with the proposed action would enhance the recreational use of the Middle Fork Recreational River. No developed site is currently available near Hungry Horse for floaters and fishermen to exit the Recreational River segment. The new river access site would also provide a safe area away from the highway for long-term vehicle parking.

Cumulative Impacts - No beneficial or adverse cumulative impacts on the Flathead Wild and Scenic River System are expected as a result of the proposed action.

5. FLOODPLAIN IMPACTS

Executive Order 11988, Floodplain Management, and FHWA floodplain regulations (23 CFR 650, Subpart A) require that the effects of the proposed action be evaluated to determine if any alternatives will encroach upon the base floodplain. The base floodplain is defined as the area covered by the base flood, a flood event which has a 1% chance of being equaled or exceeded in any given year. The base flood is also popularly known as the 100-year flood. However, there have been at least five "100-year" floods on the Flathead River in the last 96 years. **FIGURE III-3** in Part III shows the floodplains in the project area delineated on the Flood Boundary and Floodway Maps provided by FEMA (11).

The proposed action would encroach on two identified floodplains of the Flathead River system. The first encroachment area would occur adjacent to Berne Memorial Park in Badrock Canyon. The second encroachment would occur at the site of a new four-lane bridge over the South Fork of the Flathead River. For the purposes of this EIS, these encroachments are identified as the Badrock Canyon and the South Fork Encroachments. **PHOTO PLATE 5** contains photographs of the areas where encroachments may occur.

Early Coordination - The DNRC, Floodplain Management Section was consulted about floodplain aspects of the proposed action. Correspondence from the agency (March 21, 1990) is included in Part VI of the EIS. The Regional Office of FEMA located in Denver, Colorado was contacted in April, 1989 and provided cross-section data for floodplains in the project area. This data was used in the development of a preliminary hydraulic study for the proposed action. The study is on file in Helena.

Direct Impacts of the Badrock Canyon Encroachment - The improved alignment of US 2 proposed by the build alternatives will require that a longitudinal fill be placed in the Flathead River upstream from Fisherman's Rock to accommodate the new roadway. Much of the area where this encroachment would occur is fill material placed in the river during previous road construction in Badrock Canyon.

To better understand the potential impacts of the Badrock Canyon encroachment, a **survey** was performed in November, 1990 to supplement floodplain data and river cross-sections obtained from FEMA. This **work** established **cross-sections of the river bed and its banks, using a minimum of 25 individual survey points**, at **three** channel locations in the area of the proposed fill. **The survey also was used to determine** the elevation of the ordinary high water mark of the river. The extent of the longitudinal encroachment varies slightly between the two-lane and four-lane road designs under consideration.

The preliminary designs for the build alternatives in the Draft EIS assumed that the new river bank created by the encroachment would be constructed with 2:1 slopes. Based on this design, the two-lane build alternatives would place some 5,500 cubic yards of fill below the ordinary high water mark of the river. The four-lane build alternatives identified in the Draft EIS would place approximately 8,300 cubic yards of fill below the ordinary high water mark. At the elevation of the ordinary high water mark, the proposed fill for the build alternatives would reduce the width of the river channel by 6 to 7% at the widest part of the encroachment.

Based on comments received on the Draft EIS, the build alternatives were modified to include approximately 2,100 lineal feet of vertical retaining wall along the Flathead River in Badrock Canyon to minimize the encroachment on the river. The inclusion of a vertical retaining wall would reduce the amount of fill placed below the ordinary high water mark for the four-lane build alternatives from 8,300 cubic yards to 1,350 cubic yards. Similarly, if a vertical retaining wall were incorporated with the two-lane build alternatives in Badrock Canyon, the amount of fill below the ordinary high water mark would be reduced from 5,500 cubic yards to less than 250 cubic yards. At the elevation of the ordinary high water mark, including a vertical retaining wall with the build alternatives would reduce

Photo Plate 5 - River Encroachments

- Photo 1 -** The proposed alignment improvements through Badrock Canyon will require the placement of fill along this bank of the Flathead River. Note that this river bank area opposite Berne Memorial Park was filled during previous improvements to US 2.
- Photo 2 -** The proposed longitudinal encroachment in Badrock Canyon will impact stands of cottonwood trees adjacent to the river.
- Photo 3 -** A new four-lane bridge over the South Fork of the Flathead west of Hungry Horse would be constructed with the proposed action. The structure would be built parallel to and slightly downstream from the existing bridge.
- Photo 4 -** This photograph shows the bed of the South Fork in the vicinity of the proposed new bridge. Note that water levels on the South Fork fluctuate significantly depending on power generation schedules at Hungry Horse Dam. Compare the river levels shown in Photos 3 and 4.



Photo 1



Photo 2



Photo 3



Photo 4

the width of the channel by no more than 3.5% at the widest part of the encroachment.

Although the build alternatives encroach on the Flathead River in Badrock Canyon, hydraulic calculations for three locations on the main stem of the Flathead River in the area of the encroachment show that these alternatives would reduce flood elevations by 0.03 to 0.06 feet or would not change the elevation of the base flood. This conclusion was based on preliminary highway designs through Badrock Canyon prepared for the Draft EIS that employed embankments with 2:1 fill slopes.

The inclusion of a vertical retaining wall in Badrock Canyon, as now proposed, would substantially reduce the encroachment on the river as compared to the build alternatives evaluated in the Draft EIS. Reducing the encroachment also decreases the potential for adverse hydraulic and floodplain effects. Therefore, it was concluded that incorporating a vertical retaining wall with the build alternatives would have negligible effects on the elevation of the base flood.

Floodplain regulations for the State of Montana and Flathead County permit only a six-inch (0.5 feet) increase in the elevation of the base flood. The floodplain impacts of the proposed action would not exceed these standards.

The minor reduction in channel width caused by the proposed encroachment may increase flow velocities slightly but the amount of flow in the river channel would remain the same as before the channel modification. The reduction in channel width due to the proposed encroachment at this location would be substantially less than that caused by the natural constriction at Fisherman's Rock for all build alternatives.

Indirect Impacts of the Badrock Canyon Encroachment - Several buildings associated with Flathead River Ranch are located upstream in the 100-year floodplain at the confluence of the South Fork and main stem of the Flathead River. These structures would be unaffected by the proposed action since base floodplain elevations would not substantially change. The proposed Badrock Canyon encroachment does not affect or encourage incompatible floodplain development.

The proposed encroachment would cause impacts to natural and beneficial floodplain values of the Flathead River in Badrock Canyon. The alignment modifications and the proposed construction of a vertical retaining wall would remove riparian vegetation from the base floodplain which provides habitat for bald eagles. The proposed action would also eliminate four non-contiguous wetlands along the Flathead River that were created during previous flood events. These wetlands consist of narrow depressions in the floodplain and possess beneficial values since they retain sediments during periods of flooding and capture contaminants in runoff from the nearby highway. The proposed action's effects on vegetation, wetlands, wildlife, including threatened and endangered species are discussed at detail in subsequent sections of Part IV.

Direct Impacts of the South Fork Encroachment - The build alternatives would construct a four-lane bridge over the South Fork of the Flathead River. The structure would be built on a new location slightly downstream from the existing bridge. New bridge piers would be erected in the floodplain of the South Fork.

The impacts on the base floodplain resulting from the transverse encroachment at the new South Fork bridge would be minor. The existing structure would be removed and the area it occupies reclaimed. The proposed structure would be wider than the existing bridge but the number of piers in the river would **likely be reduced from four to three**. This would not cause a substantial change from the floodplain conditions created by the existing structure. The proposed bridge opening would be as large, or larger than that of the existing structure and would maintain or improve the backwater characteristics of the river at this

location.

Indirect Impacts of the South Fork Encroachment - The indirect impacts of the proposed encroachment will be minor **since no new flooding risks are expected due to the construction of the new bridge. Gravel-surfaced roads parallel the South Fork of the Flathead River but** no residences or other important development exists upstream in the floodplain of the South Fork. Hungry Horse Dam, located five miles upstream, controls water flows to the extent possible during high water periods.

The specific floodplain impacts of constructing a new bridge over the South Fork will not be known until surface water profile computations are completed as part of the design activities for the new bridge. These computations will provide designers with base flood elevations at the crossing and will determine if the new bridge will cause existing floodplain boundaries to change. The design of the new bridge will be adjusted as necessary to ensure that new base flood elevations are kept within one-foot of the existing base flood elevation.

The proposed highway construction in the vicinity of the new crossing of the South Fork would place fill materials in a wetland area along the river that possesses beneficial floodplain values. The wetland area is similar to those affected in Badrock Canyon as it retains sediments during high water conditions. The affected wetland has a low to moderate importance as wildlife habitat.

Cumulative Impacts of Floodplain Encroachments - The proposed highway reconstruction **would not** produce cumulative impacts on floodplains of the Flathead River system.

Avoidance Alternatives - In accordance with Executive Order 11988, "Floodplain Management", measures to avoid floodplain encroachments were evaluated for the proposed action. Alignment alternatives considered for the proposed action are examined **at length** in Part II and in Part V of the EIS. Generally, alternate routes to avoid identified floodplains would produce other environmental impacts which are of equal or greater magnitude.

Minor alignment variations or design modifications through Badrock Canyon are possible but they would still impact floodplains in the project corridor. Alignment variations for US 2 through Badrock Canyon were examined for the Section 4(f) Evaluation prepared with the EIS. One alignment option, engineered to avoid or minimize impacts to Berne Memorial Park, required an unacceptable encroachment on the Flathead River. Other alignment options which avoided the river were unacceptable because of cost or increased environmental impacts. The proposed alignment modifications to US 2 attempt to balance the amount of encroachment with impacts to Berne Memorial Park and Badrock Canyon. **Ultimately, a determination was made that it was not practicable to realign the highway to avoid floodplain encroachments.**

Mitigation - The extent of the Badrock Canyon encroachment would be substantially reduced by constructing a vertical retaining wall along the Flathead River instead of a riprap-faced fill embankment as initially proposed in the Draft EIS. The beneficial effects of this action are described above.

The extreme fluctuations in the water level of the South Fork due to power generation has scoured small gravels used by fish from the river bed. **Immediately downstream of bridge piers, there is often a natural deposition of material from vortex action. This may be beneficial for fish by providing sheltered backwater areas and gravels necessary for fish habitat.**

Measures to mitigate impacts to wetlands located in the floodplain and to riparian vegetation which provides habitat for bald eagles is discussed in C. Biological Environment later in Part IV. Construction specifications and project monitoring will ensure that water quality and fisheries are protected. Further discussion of measures to protect water quality is included in the Construction Impacts section of

this Part.

The proposed development in the base floodplain will require a permit from Flathead County. Part VI includes further discussion of this permit requirement.

6. AIR QUALITY IMPACTS

Early Coordination - A letter from the MDHES, Air Quality Bureau (August 24, 1989) about the proposed action is included in Part VI. The agency did not identify any important air quality concerns about the proposed action. The EPA was also contacted in May, 1992 and supplied with a brief description of this project. A request for comments on air quality concerns or other aspects of the proposed action was made in the correspondence. The EPA indicated that comments on the proposed action would be withheld until the agency reviewed the entire Draft EIS. A copy of the EPA's response (May 21, 1992) is included in Part VI.

Comments on the Draft EIS received from the MDHES Air Quality Bureau (September 15, 1992) provided new information about the attainment/nonattainment status of the project area. The Air Quality Bureau indicated that due to violations of the PM-10 ambient air quality standard, Columbia Falls and lands surrounding the community were designated as a nonattainment area for PM-10 during November of 1990. As FIGURE III-5 shows, the project area is located outside the designated boundaries of the Columbia Falls PM-10 non-attainment area.

As a result of the nonattainment designation, the MDHES Air Quality Bureau and the Flathead City-County Health Department developed a PM-10 emission control plan for the area as a modification of the State Implementation Plan (SIP). The City of Columbia Falls has adopted six rules to control reentrained dust within the nonattainment area. These rules include (12):

- Rule 501 (Material to be used on Roads and Parking Lots - Standard) requires the use of sanding and chip seal material that has a durability as defined by the Montana Modified L.A. Abrasion test of less than or equal to 7 and a content of material smaller than 200 mesh, as determined by standard wet sieving methods, which does not exceed 3.0% oven dry weight. It is the responsibility of the person applying the material to have it tested and supply the data to the Flathead City-County Health Department.
- Rule 505 (Street Sweeping and Flushing) requires a prioritized street sweeping and flushing program that commences on the first working day after any streets become temporarily or permanently ice-free and temperatures are above 32 degrees Fahrenheit. The prioritized sweeping program is in effect from November through April.
- Other Rules to Control Dust require dust control measures be implemented for construction and demolition, paving of roads and parking lots, and land clearing. The construction and demolition rules require a permit which describes the project and contains a dust control plan using techniques to control and prevent the emission and/or airborne transmission of dust and dirt from the site.

These measures have been adopted by the City of Columbia Falls and are administered with the assistance of the Flathead City-County Health Department.

Direct Impacts - Two vehicle generated pollutants, CO and PM-10, are of primary concern for the proposed action. The following sections describe the direct effects of the proposed reconstruction

project on the generation of CO and PM-10 emissions.

CARBON MONOXIDE (CO) EMISSIONS

The proposed action would not produce CO levels that exceed federal or state ambient air quality standards for this pollutant. The basis for this conclusion are the results of a simplified CO analysis for the corridor and previous general analyses for similar projects on rural roadways that have shown that air quality standards **would** not be exceeded. The air quality impacts of the proposed action that may occur **would** be limited both in duration and locale. These impacts **would** occur with or without the proposed highway reconstruction activities.

TABLE IV-2 contains the results of the CO analysis for the proposed action based on **current** and design year (2010) conditions. The analysis is applicable to all alternatives since the results are listed for varying distances from the centerline of the road. The table also shows the 1-hour and 8-hour National Ambient Air Quality Standard (NAAQS) for carbon monoxide.

TABLE IV-2 PREDICTED CO CONCENTRATIONS FOR PROJECT CORRIDOR Parts per million (ppm)						
Year	Peak Hr. Traffic ¹	Receptor Distance ²	Predicted Peak 1-Hr CO Concentration ³	NAAQS 1-Hr. CO Standard	Montana 1-Hr. CO Standard	State & NAAQS 8-Hr. CO Std.
Current	1017 ¹	75'	1.4 @ 40 mph	35.0 1-Hr. Avg.	23.0 1-Hr. Avg.	9.0
		100'	1.3 @ 40 mph			
2010 ⁴	1627 ¹	75'	1.8 @ 20 mph 1.5 @ 40 mph 1.3 @ 55 mph			
		100'	1.6 @ 30 mph 1.4 @ 40 mph 1.2 @ 55 mph			

Notes:

¹ The peak hour traffic volume represents the highest number of vehicles recorded for the year at ATR Station A-60. The current volume shown in the table is the peak hour for 1990 at Station A-60. The CO analysis for current conditions was not updated since the peak hour traffic volume shown approximates the average peak hour traffic volume of 1,012 vehicles recorded at this station over the 1990-1992 period.

The peak hour in 1990 represented about 20% of the 1990 ADT. This relationship was assumed to exist through project life. Regression analysis was used to predict future traffic volumes.

² Distance from the highway centerline to receptor for all project alternatives.

³ Assumes the following: Background CO = 1 ppm; Composite Vehicle Emissions Factors from MOBILE 3 Model; Wind angle = 30° for corridor (northwest wind); Low altitude (less than 4,000 feet), average temperature (Nov.-Feb. of 20°F); meteorological Stability Class D; and Average travel speeds as shown.

⁴ Composite vehicle emissions factors from MOBILE 3 Model only developed to year 2005. The year 2005 factor was used to represent the design year. The factor was judged to be slightly conservative due to improvements in vehicle emissions that would likely occur between the years 2005 and 2010.

Based on the results of this analysis, it is evident that neither NAAQS or State 1-hour or 8-hour CO standards **would** be exceeded by the design year. The results also show no major differences between alternatives for predicted CO levels. However, minor air quality benefits would be anticipated for the four-lane alternatives because the two-lane alternatives may experience brief periods of congestion and reduced travel speeds by the design year. Even though CO is not a problem in the project area, **all** build alternatives would benefit air quality more than the no-action alternative.

PM-10 EMISSIONS

Studies have shown that dust from paved roads are a major source of particulate matter. Road dust consists primarily of common sand and soil, tracked or deposited on the road by vehicle traffic. Particulates are also emitted by vehicles from engine exhaust, wear of bearings and brake linings, and the abrasion of tires on the road surface. When traffic passes over the particulates that settle on the road surface, it is disturbed and suspended in the air in a process known as reentrainment.

The amount of PM-10 generated each day by vehicle traffic over this section of US 2 was estimated using emission factors based on 14 samples of road dust collected from US 2 in Columbia Falls during 1990, 1991, and 1992 (13). The MDHES Air Quality Bureau also provided PM-10 emission factors for US 2 calculated from procedures outlined by the EPA that considers the amount of silt loading on the road surface and base emission factors for paved roads as determined through national studies (14). Using an average emission factor calculated for conditions on US 2 in the Columbia Falls area and 1991 traffic volumes, it was determined that traffic within the project corridor presently generates a total of 727 pounds of PM-10 each day.

Calculations of PM-10 emissions were made for the build alternatives and the no-action alternative using projected traffic volumes for the year 2010. This analysis showed that vehicles on US 2 would emit about 1,194 pounds of PM-10 each day by the design year. This level of emissions would with or without highway improvements because the projected vehicle miles of travel in the corridor would be similar for all alternatives. Vehicle travel in the corridor would not cause violations of Federal and State PM-10 standards.

The analysis used to determine PM-10 emissions is on file in Helena.

Indirect Impacts - Increases in PM-10 levels will occur in the future as traffic volumes on US 2 in and out of the Columbia Falls nonattainment area grow. Increases in the vehicle miles of travel on US 2 will generally result in greater emissions of PM-10. While not a major concern in the project corridor, the proposed action has the potential to indirectly increase PM-10 emissions levels within Columbia Falls nonattainment for PM-10 due to its nearby location. PM-10 emissions from normal traffic within the project area would not substantially increase PM-10 levels or cause violations of Federal and State standards in the Columbia Falls nonattainment area.

Reentrained road dust from vehicle travel on paved surfaces subject to heavy carry-on and particulate emissions during construction activities could contribute to short-term increases in PM-10 emissions levels within the nonattainment area. PM-10 emissions would occur during land clearing, blasting, ground excavation, cut and fill operations, and paving activities. Maintaining normal traffic through construction zones on both paved and gravel-surfaced detours would also generate particulates.

Due to this concern, an analysis was performed to determine PM-10 emissions during the construction phase of the project and the potential effects on the Columbia Falls nonattainment area. Estimates of PM-10 emissions during construction were calculated for various activities based

on a recent EPA compilation of emissions factors (14). Particulate emissions were estimated for the following activities during the construction of the highway:

- Normal traffic on US 2 plus employee and light construction-related traffic within the corridor on paved/unpaved roads;
- Road construction activities by heavy equipment;
- Sand and gravel processing and the production of asphalt surfacing; and
- Open burning of slash.

During construction, normal traffic and light construction-related traffic (like employees trips to and from work) on paved roads would generate about 1,660 pounds of PM-10 each day the first construction season and some 828 pounds per day of PM-10 during the second construction season. Travel on unpaved gravel detours or temporary surfaces would be expected to generate between 4,700 to 9,100 pounds of PM-10 each day assuming chemical stabilizers are used to control dust.

Heavy equipment working on disturbed areas of the project would generate more than 510 pounds of PM-10 each day during periods of peak activity. PM-10 emissions from construction equipment powered by diesel engines would produce slightly more than 5 pounds of emissions each day.

Sand and gravel processing and the production of asphalt surfacing for the reconstruction of US 2 would produce more than 467 pounds and 38.5 lbs per day of PM-10, respectively, during the construction project. Although extensive open burning of debris cleared from the right-of-way is not anticipated, limited burning of such materials could generate about 25 pounds per day of PM-10 emissions during the construction of this proposed project.

Cumulative Impacts - No adverse cumulative impacts on the air quality of the project area or region are foreseen as a result of the proposed action. This project, together with previous improvements on US 2, will smooth out traffic flows and reduce stopping and idling times. These operational benefits would reduce vehicle emissions in the area to a minor extent.

Mitigation of Air Quality Impacts - Mitigating measures for the air quality impacts of the proposed action are focused on reducing PM-10 emissions during the construction phase of the project. This period has the greatest potential for producing increased PM-10 emissions due to normal corridor traffic and heavy equipment travel on unpaved surfaces, carry-on of material onto paved surfaces by vehicle tires, and earth-moving activities associated with highway construction.

Coordination with the MDHES Air Quality Bureau identified measures that can be incorporated into the project to reduce PM-10 emissions during the construction phase. The following mitigating measures will be included during the construction of the proposed action:

- Street sweeping will be done, as needed, at both ends of the project to reduce the impact of carry-on dirt from the project to paved streets within the nonattainment area boundaries.
- Unpaved detours will be watered and/or chemically stabilized so that the emissions are less than 20% opacity.

- If slash generated by right-of-way clearing is to be burned, it will be hand-piled or stacked with a brush blade and cured. Any open burning will be subject to restrictions of an open burning permit from the County, if one is required.
- Operators of gravel crushers and asphalt plants used for this project will be required to obtain an air quality permit from the MDHES Air Quality Bureau.

With the application of these mitigation procedures, it is unlikely that emissions of PM-10 during the construction phase of the project would be substantial enough to cause new violations or worsen the violations of PM-10 standards in the Columbia Falls nonattainment area. The MDHES Air Quality Bureau concurred with this conclusion in correspondence dated June 21, 1993.

7. NOISE IMPACTS

Five sites along the project corridor were selected as locations for noise monitoring. These monitoring sites included four residences at varying distances from the highway and Berne Memorial Park as shown in **FIGURE III-5** in Part III. Each of these receptors are Activity Category B according to the FHWA's Noise Abatement Criteria (NAC). APPENDIX 7 contains a description of each category and acceptable noise levels associated with the NAC land uses or activities.

An impact would be considered substantial if noise levels increased more than 10 dBA over existing noise and/or if total noise levels increased enough to exceed the NAC for Category B at sensitive receptors.

Future highway traffic noise levels for each of the alternatives under consideration in the EIS were determined by the STAMINA 2.0 noise prediction model.

Direct Impacts - The results of the noise analysis are shown in **TABLE IV-3**. The table contains predicted values of $L_{eq}(h)$ for the two- and four-lane road designs and the no-action alternative. **The table shows that increases in noise levels will occur with or without the proposed action due to the annual growth in traffic volumes on this route.**

A separate analysis of predicted noise levels at varying distances from the highway centerline was also prepared to assess noise impacts in rural areas at distances of 75, 150, and 300 feet from the centerline of the highway. This general noise evaluation is appropriate for all alternatives and all rural locations along the highway where travel speeds are or will be 55 mph.

TABLE IV-3 shows that the predicted $L_{eq}(h)$ noise levels for current peak hour traffic is expected to be from 1 to 6 dBA above measured noise levels in the corridor. These predicted noise levels indicate that the NAC for Activity Category B (67 dBA) may already be exceeded during peak travel periods at all but one monitoring location.

The noise analysis also shows no appreciable difference in the predicted design year noise levels for the two-lane or four-lane road designs or the no-action alternative. The predicted values of $L_{eq}(h)$ shows that the NAC for Activity Category B will be equaled or exceeded at all monitoring locations by the design year (2010).

Noise impacts may occur at eight residences and one cabin located within 150 feet of the existing centerline of US 2 between Columbia Heights and the House of Mystery. The centerline for the reconstructed highway in this area would be in approximately the same location as that of the existing highway. Modeling showed that noise levels at these sites would increase by 4 to 5 DBA by the design year with the build alternatives and continued traffic growth on US 2. This increase

in noise would exceed the NAC for such uses but does not represent a "substantial" increase over current peak hour noise levels.

The calculations indicate that noise levels will increase substantially (more than 10 dBA) by the design year at Berne Memorial Park. Please note that noise levels at the roadside park are difficult to assess due to the rock cliffs that reflect traffic noise. **Measured and predicted noise levels at the park must be increased by about 4 dBA to account for the sound reflected from the rock formations.**

At the west edge of Hungry Horse, the centerline of the existing highway is about 105 feet from several residences located north of the highway. The centerline of the new highway would be some 5 feet closer to homes in this area than the existing centerline. As indicated above, noise modeling suggests that the NAC may be exceeded at locations within 150 feet of the existing centerline at travel speeds of 55 mph. Although it is possible that the NAC may be exceeded at these homesites in Hungry Horse, future noise levels are not likely to exceed 67 dBA or constitute a substantial increase over existing noise levels. This conclusion was made because the elevation of the new road relative to these residences would be somewhat lower than the existing highway and because speeds in this area would be 45 mph, not 55 mph. Both of these factors would be expected to result in lower noise levels than predicted by the model for residences in this location.

**TABLE IV-3
PROJECT NOISE ANALYSIS - $L_{eq}(h)$ DBA NOISE LEVELS**

Site Number (See Fig. III-5)	Distance From Existing Centerline	Measured vs. Predicted Values		Current Peak Hour $L_{eq}(h)$	Predicted Noise Levels Year 2010 DHV ¹ for Alternatives			Remarks
		Measured	Predicted		Alt 1/2	Alt 3/4	Alt 5	
1	140' LT	60	61	62	67	67	67	House, Sta. 477+50 ⊗ 40 mph
2	55' RT	65	64	69	74	74	73	House, Sta. 500+00
3	63' RT	68	67	69	73	73	73	House, Sta. 518+00
4	93' RT	65	66	67	71	71	71	House, Sta. 529+00
5	86' RT	65 ²	61	71 ²	--	--	76 ²	Park, Sta. 604+00
STAMINA 2.0 Predicted Sound Levels								
Travel Spd. 55 mph	75' LT/RT	---	---	68	72	72	72	Typical Rural Corridor
Travel Spd. 55 mph	150' LT/RT	---	---	65	69	69	69	Typical Rural Corridor
Travel Spd. 55 mph	300' LT/RT	---	---	62	66	66	66	Typical Rural Corridor
NOTES:								
¹ DHV (Design Hourly Volume) for projected year 2010 equal to predicted 30th highest hour of the year at ATR Station A-60.								
² Sound levels are estimated to increase by 4 dBA due to reflection from rock cliffs at Berne Memorial Park.								

Indirect Impacts - The noise impacts of the proposed action **would** not induce other impacts in the project area.

Cumulative Impacts - The proposed action **would** not produce any notable cumulative impacts in the project area or region.

Mitigation of Noise Impacts in the Vicinity of Monte Vista Drive - As indicated previously, noise levels exceeding 67 dBA (NAC for Category B uses) are projected for the design year at the eight homes and one cabin located within 150 feet of the existing/new centerline for US 2. The acquisition of new right-of-way for the proposed action would relocate residents from five of the nine affected residential properties and eliminate the possibility of noise impacts at these sites. The other residences are located near the intersection of US 2 and Monte Vista Drive. Relocations are not proposed in this area since the residences are located beyond the projected future right-of-way limits for US 2.

Since relocation is unlikely for the other residences that may experience noise impacts, noise abatement measures were considered at these sites. Noise abatement measures considered included noise walls, earth berms, vegetative screening, and changes in the location of the highway or its profile. The appropriateness of these noise abatement measures are discussed below.

Noise Barriers - Noise barriers are solid obstructions built between the highway and the residences along the roadway. Barriers can be formed from earth berms (mounds) along the road or from high vertical walls. Earth berms have a natural appearance and can be designed to blend with the environment. Noise walls can be constructed of different materials including concrete, wood, masonry, or metal. In order to be effective, walls must be high enough to break the line of noise transmission from the noise source (automobiles and trucks) and the noise receptor. Noise walls are usually limited to a maximum height of 25 feet for structural and aesthetic reasons and are typically used where space is limited between the highway and the receptor. Effective noise barriers can reduce noise levels by 10 to 15 decibels, decreasing the loudness of traffic noise by half. In order to gain a noticeable reduction in noise levels, the noise wall or earth berm must be continuous, and at least 10 feet tall.

Although walls may reduce the noise levels, the visual intrusiveness of the walls and the resulting safety hazards due to the proximity to the new highway were considered to be unacceptable impacts for the project area. A high wall located on either side of Monte Vista Drive close to its intersection with US 2 could limit views of approaching vehicles for motorists wishing to turn onto the highway. Further, a continuous noise wall could not be built between the highway and homes along the south side of the highway because Monte Vista Drive's intersects US 2 in the area between impacted residences.

The major problem with earth berms is the additional right-of-way required to construct them. In order to attain a berm 10 feet high with 3.5:1 side slopes, an additional 70 feet of right-of-way would be necessary. The construction of such a berm would require the removal of the four residences along the highway where noise abatement measures would benefit residents. For this reason, this noise abatement measure is not considered reasonable.

Vegetative Screening - This noise abatement measure is only effective if a continuous 20 to 30-foot-wide band of dense vegetation can be produced. Such vegetative screens may achieve a reduction in noise levels of some two or three decibels. This is not considered to be a feasible abatement measure in northwest Montana since dense vegetation does not

exist along the roadside and annual rainfall amounts are generally insufficient to sustain the growth of thick vegetative screens.

Modification or Control of the Noise Receiver - The modification of existing buildings with additional insulation or air conditioning can be an effective means of abating noise impacts. However, very few private-use buildings in the country have been noise insulated with Federal-aid highway funds. To date, highway funds have not been expended for this type of noise mitigation in Montana.

Changes in Highway Location - As indicated in Part II of the EIS, constructing US 2 on an alternate location through the project corridor is not reasonable for the proposed action. Varying the location of the centerline will not abate noise impacts since sensitive receptors are located on both sides of the roadway.

Changes in Highway Profile - Lowering the roadway can be an effective means of reducing noise levels. This measure is not practical in the vicinity of the US 2 and Monte Vista Drive intersection because it would increase the width of the area disturbed by construction and require the acquisition of more right-of-way. Residents of the four remaining homes where noise impacts are anticipated by the design year would have to be relocated. For this reason, lowering the highway is not a reasonable noise abatement measure.

For the reasons described above, none of the measures considered for the four residences near the US 2 and Monte Vista Drive intersection where impacts are anticipated in the future are considered to be reasonable or feasible forms of noise abatement.

Mitigation of Noise Impacts at Berne Memorial Park - Noise predictions for the monitoring location at Berne Memorial Park show that NAC may currently be exceeded during peak hours and **would** exceed the criteria by the design year even with the no-action alternative. The roadside location and the sound reflection produced by the rock cliffs contribute to the noise impacts at the park.

The following paragraphs describe why implementing noise abatement measures at Berne Memorial Park are not feasible or reasonable ways to mitigate noise impacts.

Traffic Management Measures - Prohibiting the use or restricting the times that certain vehicles can use US 2 is not reasonable because the route is the only continuous east-west route across northern Montana. Significant detours or delays would be required for vehicles that were restricted or prohibited from using this portion of US 2. Modifying speed limits through Berne Memorial Park would do little to abate noise impacts to park users. Noise predictions show that due to the proximity to the highway, NAC for Activity Category B would still be exceeded even if the speeds were reduced to 40 mph.

Alignment Modifications - Preliminary designs for all build alternatives have shown that it is not prudent to construct the highway on a new location. The horizontal and vertical alignments through Badrock Canyon can not be altered to produce a substantial noise reduction.

Noise Barriers - The use of noise barriers at Berne Memorial Park is not a reasonable noise abatement measure due to aesthetic, traffic safety, and engineering considerations. The construction of a noise barrier between the park and the highway would produce a visual impact because the barrier would eliminate views of the Flathead River.

Since noise barriers must be continuous to be effective, entrance and exit locations would be necessary at either end of the park. The horizontal curvature of US 2 and the barrier may restrict

the visibility of oncoming vehicles for traffic entering or leaving the park. This **would present** an unsafe traffic condition and **provide** the opportunity for numerous vehicle conflicts.

Creation of a Buffer Zone - There is not sufficient property available between the park and the highway to develop a buffer zone for noise reduction.

Little, other than relocating the facilities of the park to a site further from the highway, can be done to reduce noise impacts at Berne Memorial Park. The reasonableness and feasibility of this measure is examined in the Section 4(f) Evaluation that accompanies the EIS.

C. Biological Environment

1. VEGETATION IMPACTS

Twenty landtypes and/or vegetation communities were identified within the project corridor. FIGURE III-6 in Part III shows the location of the proposed road and the vegetation types that would be affected by the reconstruction of US 2.

Direct Impacts - The construction of any build alternative would remove varying amounts of vegetation and topsoil from areas needed for right-of-way. Little difference in impacts to vegetation exists between the build alternatives because right-of-way requirements and associated clearing activities for construction would be similar. **Total areas of new right-of-way needed for the alternatives vary by less than 10 acres.**

The proposed alignment follows the existing alignment of US 2 between Columbia Heights and the House of Mystery. The existing right-of-way corridor **would** generally be expanded by 10 to 40 feet on each side of the highway. **The most notable effects of the proposed highway expansion in this part of the corridor would be the removal of moderately dense forest growth on rural and suburban residential lands along the highway.**

More substantial impacts to vegetation would occur in areas between the House of Mystery and Hungry Horse where alignment **modifications would expand existing right-of-way corridors and new areas of right-of-way must be cleared.** Riparian vegetation (predominantly cottonwood, spruce, Douglas-fir, and paper birch) near Berne Memorial Park would be cleared to accommodate construction along and in the river. **Stands** of Englemann spruce and lodgepole would be removed **on the approaches to the new South Fork Bridge** west of Hungry Horse. The new alignment would cut new corridors through dense timber creating an appearance similar to that of the existing right-of-way corridor.

TABLE IV-4 summarizes the impacts of the build alternatives on each vegetation community or landtype within the project area. TABLE IV-4 identifies the total acreage of various vegetation communities or landtypes located within the new right-of-way for each build alternative and shows the total area of each community or landtype potentially disturbed by construction.

Based on the information in TABLE IV-4, construction of the two-lane alternatives (Alternatives 3 and 4) would disturb some 16 to 20% less area of new right-of-way than the four-lane designs (Alternatives 1 and 2). The table also indicates that relatively little difference exists in the impacts to vegetation for the alternatives under consideration. Other than near Berne Memorial Park, the overall impacts to vegetation in the project corridor are considered to be minor when the total vegetation in the area is considered. The impacts to vegetation are unavoidable for the build alternatives.

TABLE IV-4 IMPACTS OF BUILD ALTERNATIVES ON VEGETATION COMMUNITIES AND LANDTYPES								
Landtype/Community Affected	Acres in New Right-of-Way				Acres Disturbed by Construction			
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 1	Alt. 2	Alt. 3	Alt. 4
W-1	0.27	0.22	0.22	0.24	0.18	0.14	0.14	0.17
W-2	1.12	1.12	0.85	0.85	0.84	0.84	0.50	0.50
W-3	0.66	0.66	0.66	0.66	0.00	0.00	0.00	0.00
W-7	3.91	3.91	3.91	3.91	1.46	1.46	1.10	1.10
R-7	4.61	4.61	4.05	4.05	2.12	2.12	1.41	1.41
R-8	3.01	3.01	2.64	2.64	1.59	1.59	1.06	1.06
R-9	1.88	1.88	1.63	1.63	0.86	0.86	0.53	0.53
R-10	0.91	0.91	0.91	0.91	0.07	0.07	0.07	0.07
F	16.98	15.81	14.99	14.19	12.66	12.37	9.85	9.37
R	20.82	19.54	19.12	18.38	17.30	15.47	14.63	12.92
U	26.26	26.05	25.89	25.91	18.18	17.87	17.69	17.53
D	7.89	7.91	7.32	7.38	7.45	7.36	7.38	7.38
B	5.90	5.90	5.17	5.17	3.00	3.00	2.01	2.01
E	4.65	4.65	4.65	4.65	3.53	3.53	3.53	3.53
G	20.41	20.41	18.15	18.15	16.67	16.67	13.86	13.86
Total Acres by Alternative	119.28	116.59	110.16	108.72	85.91	83.35	73.76	71.44

The proposed construction of replacement parkland and a new river access on a site near the House of Mystery would directly impact R, F, D, R-7, and W-7 communities or landtypes. The proposed construction of these facilities would disturb or remove a total of about 3.4 acres of these vegetation or landtypes.

Indirect Impacts - The removal of riparian vegetation (R-7 Type) near Berne Memorial Park would reduce the number of potential perching and roosting trees for bald eagles and would remove some of the trees between the highway and the river. The loss of vegetation due to right-of-way clearing would affect the visual qualities of some parts of the corridor. These impacts are discussed further in other sections of this Part.

Cumulative Impacts - The potential exists for spreading noxious weeds within the new right-of-way and on adjacent lands due to road construction activities. This would contribute to weed problems in the county and may adversely affect wildlife habitat in the project area.

Mitigation - During construction, much of the topsoil and vegetative cover would be stripped from the right-of-way due to excavation. The topsoil would be removed, stockpiled, and used to cover cut and fill areas for revegetation. The establishment of strict construction limits and the removal of only the vegetation

necessary during clearing will help minimize impacts.

The revegetation of disturbed right-of-way areas will be in accordance with **standard** construction specifications and will utilize plants of low palatability to avoid attracting wildlife to the roadside. Suggestions for appropriate species were listed on page 89 of the *Hungry Horse - West Glacier Final Environmental Impact/4(f) Statement*. The effectiveness of previous revegetation efforts along US 2 should be evaluated to determine if unpalatable species inhibit wildlife use of roadside areas between Hungry Horse and West Glacier.

Two locations east of the House of Mystery exist where proposed alignment changes would create large areas of abandoned highway right-of-way. The old pavement will be removed from these areas and the abandoned right-of-way will be revegetated with species like ponderosa pine and Engelmann spruce. Since these areas of dense tree cover may contain very little low- to mid-level canopy vegetation, transplanting shrubs like Wood's rose, red-osier dogwood, Rocky Mountain maple, or willow would provide some screening and security for wildlife. Transplanting these species on disturbed areas adjacent to the river would also benefit wildlife by providing screening and security cover.

Several options were identified for controlling and eventually eliminating the infestation of spotted knapweed that exists on the replacement parkland/river access site near the House of Mystery. Both interim and long-term management options for the parcel have been coordinated with staff of the USFS Hungry Horse Ranger District. Identified management options for the parcel range from herbicide applications to control local knapweed to the restoration of a desirable plant community through cultivation, reseeding, and post-seeding weed control. The most desirable management option depends upon the probable construction date for the project.

The Flathead County Weed District was also contacted about applying herbicide treatments on the property near the House of Mystery and for another State-owned parcel located south of US 2 and west of Berne Memorial Park. Arrangements were made with the Flathead County Weed District to apply herbicide treatments on these parcels during the summer of 1993.

The Hungry Horse District Ranger recommended that the **disturbed riparian** area near Berne Memorial Park be revegetated with cottonwood trees to help offset the loss of perching and roosting sites for eagles. Other measures to help mitigate the loss of riparian vegetation adjacent to the Flathead River are discussed in the threatened and endangered species impact discussions later in Part IV. It is possible that timber cleared from the proposed right-of-way through National Forest lands could be cut and sold producing revenue for the Flathead National Forest.

Impacts to Plant Species of Special Concern - Since no plants of special concern are known to occur in the project corridor or were observed during the field reconnaissance, the proposed action is not expected to impact such species. There is a potential for impacts to species of concern because suitable habitat exists for these plants in the general project area. However, neither the Montana Natural Heritage Program or the USFS have located such species in the project corridor. Construction of the highway, revegetation of disturbed right-of-way, and invasion of weedy species could remove potentially suitable habitat for species of concern.

2. WETLANDS IMPACTS

Early Coordination - Efforts were made during the preparation of the EIS to ensure that the COE and other involved agencies were kept informed of wetlands impacts associated with the proposed action and measures to mitigate likely impacts. The COE, USFWS, and the Montana FWP were provided opportunities to review and comment on the reports identifying and evaluating wetlands

affected by the proposed action during 1990 and in 1993. Options to mitigate wetlands impacts were initially discussed with the COE and the FWP at a meeting held on July 29, 1991. The wetlands impacts of the proposed action were also generally discussed in meetings with the EPA during December, 1992 and April, 1993.

During the preparation of the Final EIS, the COE (Omaha District and the Montana Regulatory Office) was provided with an opportunity to review and comment on the Draft 404(b)(1) Evaluation and the Only Practicable Alternative Wetlands Finding. The COE's comments have been incorporated into these documents which are presented in APPENDIX 14 and 15. The agency was also contacted during February, 1994 and asked for a preliminary indication of whether or not a 404 permit can be issued for the proposed action based on the information presented in the EIS.

Correspondence from the COE dated May 10, 1994, indicates that the information provided in the EIS is sufficient at this time for the COE to issue a 404 permit. The COE further stated that the decision to issue a permit would not be made until after the Final EIS is released and comments on the document have been received. The agency recommended that an application for a 404 permit should be submitted with the filing of the Final EIS. A copy of the COE's letter is contained in APPENDIX 15.

Direct Impacts - As indicated in Part III and shown in FIGURE III-6, the proposed highway reconstruction would affect jurisdictional wetlands located in Wetland Sites 2, 4, and 5 within the project area. The proposed action would impact wetland types W-1, W-2, and W-7 located in the new right-of-way of the proposed highway. In addition to the text below, impacts to affected wetlands are described in APPENDIX 14 which evaluates the proposed action according to the Section 404(b)(1) Guidelines.

TABLE IV-5 compares the direct impacts on these wetland sites for each of the build alternatives. Please note that the table identifies the amount of wetland within the new right-of-way and the amount of wetland that would be disturbed by construction.

Direct impacts resulting from the construction of the build alternatives include clearing, excavation, filling, and grading of portions to each wetland site. These activities would result in a loss of wetlands. The total maximum potential loss of wetlands (area within the new right-of-way) ranges from 5.35 acres to 5.58 acres. The probable area of each wetland site disturbed by the build alternatives would range from 1.43 acres to 1.88 acres. The extent of these impacts would be highest under Alternative 1 and lowest under Alternative 4.

A riparian community type (R-8), characterized by seeps and springs, exists at the western outcrop at Berne Memorial Park. The proposed highway reconstruction would directly impact this community by excavating the outcrop to eliminate a substandard horizontal curve. Although this riparian community would be directly impacted, it is not subject to jurisdiction under Section 404.

The proposed action would substantially increase the size of the exposed rock cut but is not expected to eliminate the seeps and spring that occur at this location. This conclusion was made since water surfacing on the cliff face moves through fractures in the rocks that form the outcrop. Waters surfacing above the outcrop would also continue to drain over the face of the cliff after construction. Further discussion of the impacts at this location is presented in the Visual Impacts section of this Part and in Part V.

A complete evaluation of the proposed action's effects on the functions and values based on the WET analysis is on file in Helena.

**TABLE IV-5
IMPACTS OF BUILD ALTERNATIVES ON JURISDICTIONAL WETLANDS**

Wetland Site	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Wetland Site 2 (North)				
Acres in New Right-of-Way	0.27	0.22	0.22	0.24
Acres Disturbed by Construction	0.18	0.14	0.14	0.17
Wetland Site 2 (South)				
Acres in New Right-of-Way	0.22	0.20	0.20	0.22
Acres Disturbed by Construction	0.13	0.12	0.12	0.12
Wetland Site 4				
Acres in New Right-of-Way	0.90	0.90	0.65	0.65
Acres Disturbed by Construction	0.71	0.71	0.38	0.38
Wetland Site 5*				
Acres in New Right-of-Way	4.51	4.51	4.51	4.51
Acres Disturbed by Construction	1.15	1.15	1.03	1.03

* **NOTE:** Wetland Site 5 consists of 19 individual areas ranging in size from 0.2 acres to 2.6 acres.

IMPACTS AT WETLAND SITE 2

This site is comprised of type W-1 wetlands (areas having permanent standing water and rooted emergent vegetation like cattails) and W-2 wetlands (areas having seasonal or permanently high water tables and graminoid and herbaceous cover like redtop, reed canarygrass, bluejoint, and beaked sedge).

The effect of reconstruction on Site 2 would be a maximum loss of 0.49 acres. Widening the highway through this wetland would not substantially impact the identified functions and values of the wetland. The existing fill for US 2 previously impacted the wetland and restricts the flow between the north and south portions of the wetland. This wetland area has a low potential for waterfowl use but a moderate potential for wildlife values because it is associated with other wetland types and forested areas that provide good habitat interspersed for food and cover.

The overall functions of the wetland would not be altered with construction of the new highway provided a culvert or drainage way is provided between the two wetland areas associated with this site. The site would continue to provide localized benefits by collecting runoff.

IMPACTS AT WETLAND SITE 4

Wetland types at Site 4 affected by the proposed action are primarily W-2 wetlands (areas characterized by seasonal or permanent high water tables with graminoid and herbaceous cover) with other lesser amounts of W-3 (shrub cover) and W-1 (cattails) wetlands.

The build alternatives would result in a maximum loss of 0.90 acres and would eliminate more than half of this wetland area. Highway reconstruction would have notable impacts on the identified functions and values of this site, however, the functions the wetland provides are not considered to be critical for this area. The analysis indicated that this site has moderate breeding waterfowl potential and low to moderate wildlife values. Site 4 is associated with forested areas that provide

good habitat interspersed for food and cover for other wildlife.

IMPACTS AT WETLAND SITE 5

Affected wetlands associated with Site 5 are classified as W-7 wetlands. These wetlands are characterized by areas with seasonal or permanent high water tables subject to temporary flooding with a deciduous overstory of cottonwood and conifers and a dense shrub understory. These wetlands are found on the floodplain of the Flathead River.

As indicated in Part III of the EIS, nineteen individual, non-contiguous areas within the riparian community along the Flathead River comprise Site 5. Highway reconstruction would affect up to 0.61 acres of four small wetland areas that exist opposite Berne Memorial Park. The proposed action would fill all of these small wetlands. Reconstruction would also affect a maximum of 0.8 acres of a small wetland near the location of the new bridge over the South Fork. The proposed action would affect a portion of this wetland. Although the functions of these wetlands would be eliminated or drastically reduced by the proposed action, their loss is not considered critical because these sites serve only limited functions.

IMPACTS AT THE PROPOSED RIVER ACCESS SITE

Development of the proposed river access near the House of Mystery would affect two small wetlands. Construction of the boat ramp would eliminate less than 0.1 acres of wetland. This loss is not considered critical since the functions of the affected wetland would not be substantially impaired.

Indirect Impacts - Other impacts on wetlands may result from the operation and maintenance of the highway. Minor amounts of sediments from road sands that are inadvertently plowed into the Flathead River during the snow season and minor erosion of the roadside slopes (where they function as the streambank) during high spring flows could degrade surface water quality. The potential for water quality impacts due to chemical spills during construction or operation of the facility also exists.

Cumulative Impacts - The potential for spreading noxious weeds is high since robust weed populations already exist within and adjacent to the highway right-of-way. Invasion of wetlands by weeds is a particularly important concern. Purple loosestrife, which has an affinity for cattail habitat, has been identified in Montana and may be of concern in this area.

Avoidance Alternatives - In accordance with Executive Order 11990, "Protection of Wetlands" and the "Interagency Memorandum of Understanding: Management and Mitigation of Highway Construction Impacts to Wetlands in the State of Montana," options to avoid wetlands were examined. Alignment alternatives considered for the proposed action **are discussed** in Part II and in Part V of the EIS. Generally, alternate routes to avoid wetlands were eliminated from consideration because they would produce environmental impacts equal to or greater than those associated with the proposed action. Minor alignment variations or design modifications through Badrock Canyon are possible but they would still impact wetlands along the Flathead River.

Mitigation of Wetlands Impacts - All mitigation will comply with the provisions of the Interagency Memorandum of Understanding (MOU) on wetlands adopted by the Montana Interagency Wetlands Group in 1989. According to the MOU, after avoidance options, mitigation within the highway right-of-way including the enhancement of existing wetlands or the creation of new wetlands should be the first considerations for unavoidable impacts. Limited opportunities exist in the right-of-way corridor to enhance or create new wetlands due to the small acreage of existing wetlands, the mountainous terrain, and the land uses adjacent to the highway. Enhancement of existing **Sites 3 and 4 (shown on FIGURE III-6) offer the best**

opportunities for mitigating impacts to wetlands in the general project area.

The proposed highway would be constructed directly through an isolated wetland (identified as Site 4 in FIGURE III-6) located on private land south of US 2 between Berne Road and Badrock Canyon. This site contains Types W-2 and W-3 vegetation and is fed by a spring that surfaces on Columbia Mountain. An area immediately south of Site 4 appears to be a good candidate site for the development of a replacement wetland. Preliminary investigations of this site showed that it lies on an old river terrace where soils and subsurface materials are highly permeable. The construction of a replacement wetland in this area may require the use of a semi-permeable geotextile liner to retain the surface water that flows into the wetland. FIGURE IV-2 shows Site 4 and the possible replacement wetland area. The replacement area could be hydraulically linked to the portion of the existing wetland supporting W-3 vegetation so the site is not isolated from its water source. The ability to acquire private land to construct the replacement wetland and the feasibility of actually constructing a wetland at this location must be further evaluated if mitigation is proposed at this site.

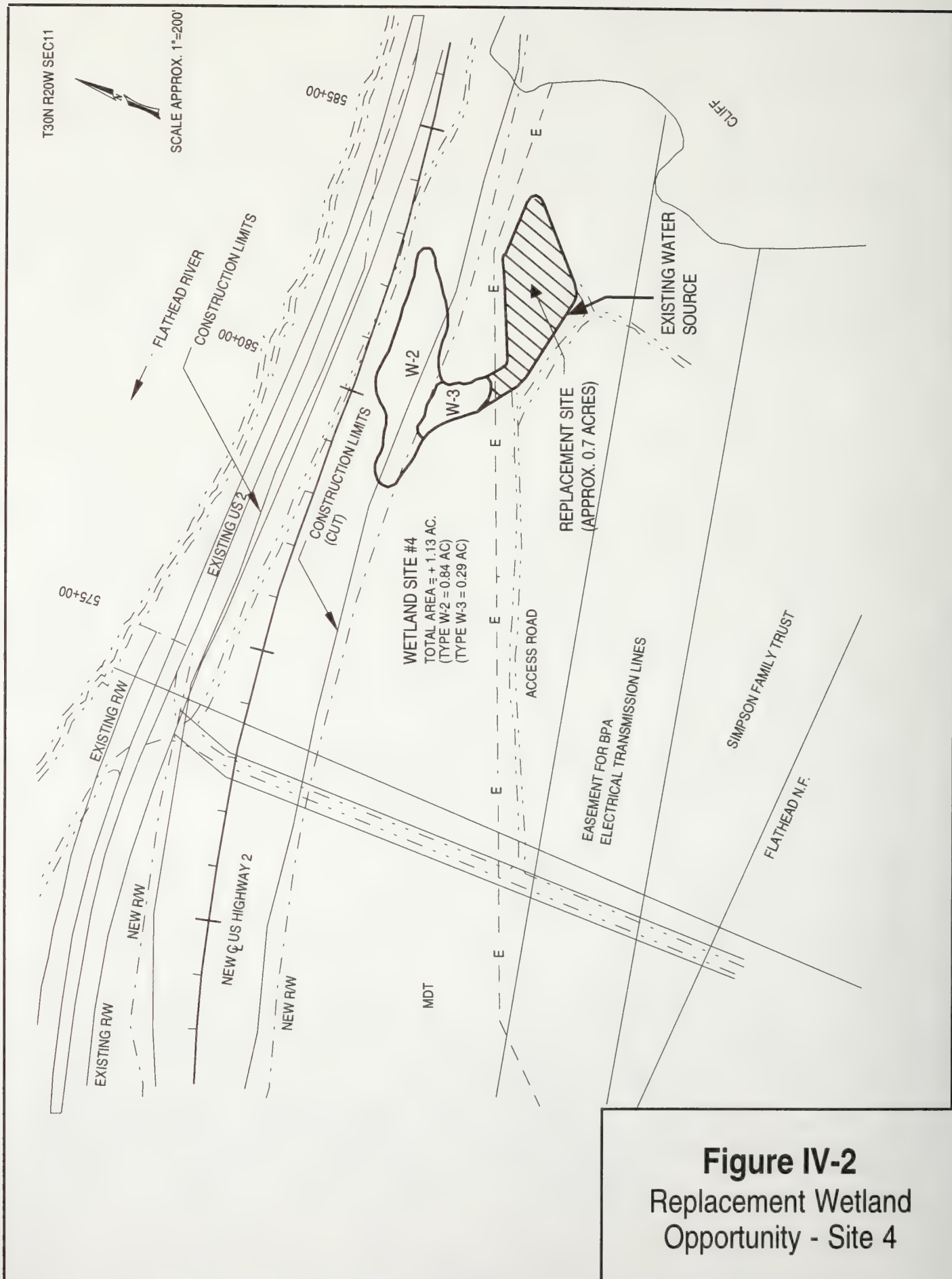
Although Wetland Site 3 would not be impacted by the proposed highway reconstruction, a previously flooded area west of the site offers a potential location for a wetland enhancement project. FIGURE IV-3 shows the location of Wetland Site 3 and the area where the wetland could be expanded. Expanding the wetland would require that a connection once again be established between the existing pond and the once flooded area. A semi-permeable geotextile liner may be needed to maintain slow drainage at this location. The site offers a good opportunity to replace a number of communities, including Type W-7 vegetation. As with Site 4, the ability to acquire private land and design a wetland must be further investigated if it is determined that this location offers the best opportunity for mitigating wetlands impacts.

Sedimentation to wetlands and the Flathead River **would be limited during construction by using erosion control BMPs like** sediment basins and by temporarily stabilizing all exposed soil until revegetation is successful. Streambanks at the new bridge site would be stabilized with mulch or netting and shrub plantings. Sedimentation caused by erosion or road sands may be reduced or eliminated by designing less steep slopes that would ensure good vegetation recovery. Combined with a vigorous species mix, the slopes could be used to trap these materials. **Detailed mitigation plans for the river crossing and the fill in the Flathead River will be prepared once design plans for the road and bridge have been developed.**

The opportunity exists to establish a vegetative cover in the corridor that restricts the reentry of weedy species and actually improves habitat for wildlife. A vigorous stand of vegetation is one of the best defenses against weed invasion. Due to the wetland habitat in the right-of-way, the widespread use of herbicide is not recommended as a weed control measure. Spot spraying may be useful after vegetation has been reestablished in the corridor, however, because of the sensitivity of broadleaf plants to herbicides and groundwater considerations, a diligent hand-pulling program to remove weeds may be more appropriate.

Only Practicable Alternative Wetlands Finding - The Only Practicable Alternative Wetlands Finding has been included as APPENDIX 15 in the Final EIS. The Finding discusses opportunities to minimize impacts, to provide compensatory mitigation within and outside the highway right-of-way, and ways to provide mitigation outside the immediate project area.

Correspondence received from the COE on May 10, 1994 indicates that the appropriate documentation and evaluation of wetland areas, impacts to affected wetlands, alternatives to the use of wetlands, and mitigation has been conducted. A copy of the COE's letter is contained in APPENDIX 15.



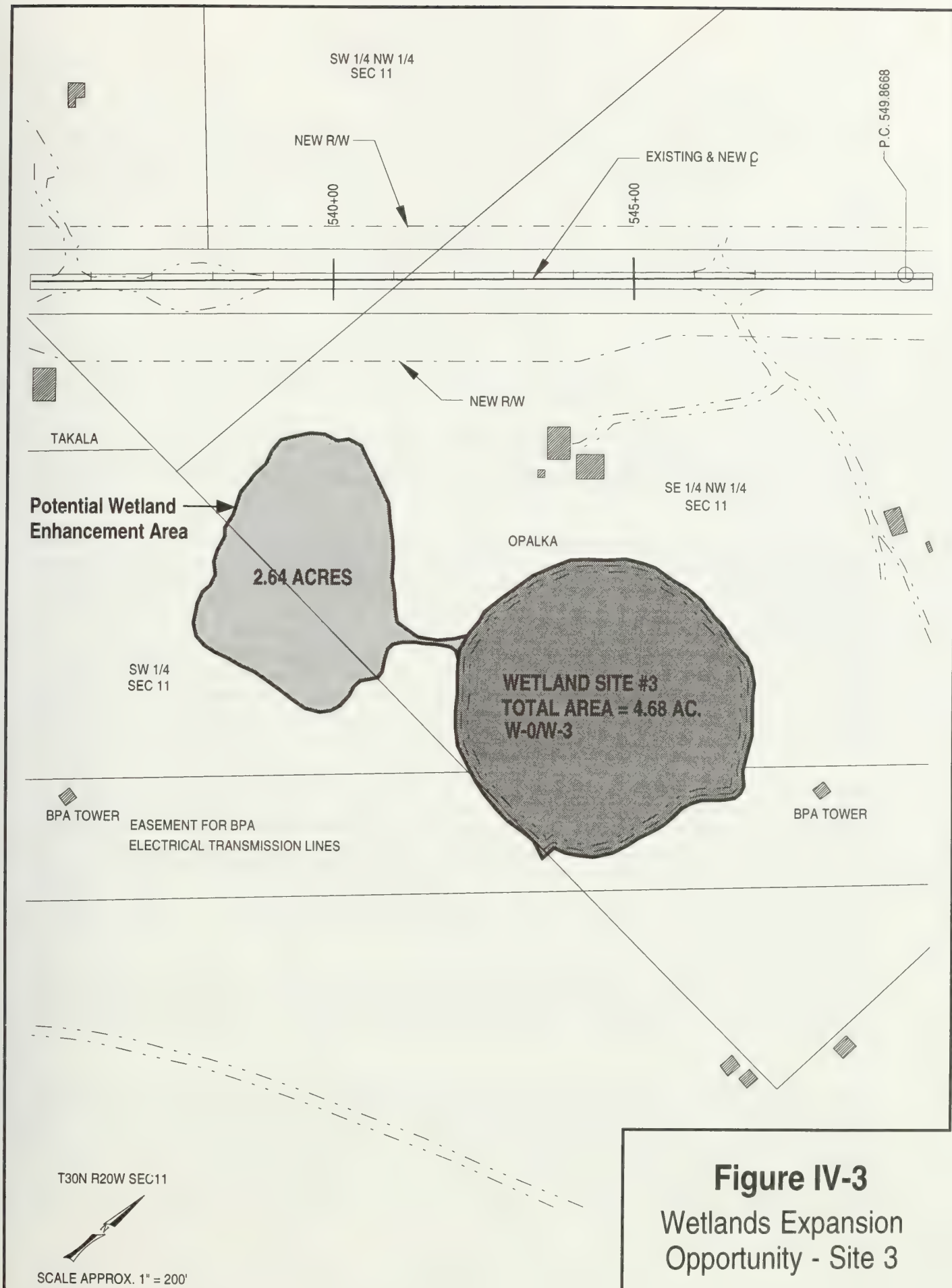


Figure IV-3
Wetlands Expansion
Opportunity - Site 3

3. WATER BODY MODIFICATION AND WILDLIFE IMPACTS

Impacts to Water Bodies - The proposed action's effects on water bodies in the project area were previously discussed in Part IV under the sections describing water quality impacts, Wild and Scenic River impacts, and floodplain impacts. The Section 4(f) Evaluation in Part V also examines impacts to water bodies.

Direct Impacts on Wildlife - The proposed action has the potential to produce the following direct impacts on wildlife:

- loss of habitat resulting in less forage and cover;
- displacement;
- highway mortalities during facility operation; and
- interruption of animal movements or migration patterns.

These impacts are discussed below for various wildlife species and fish likely to occur in the project corridor.

Direct Impacts to Reptiles and Amphibians - Direct impacts of the build alternatives on reptiles and amphibians would be limited to some construction-related fatalities (killed by heavy equipment), road-related fatalities, and possibly increased predation. All alternatives **would** provide a wider road and cleared right-of-way area, increasing the amount of time and distance animals are on the road. This **would** also increase the time they are exposed to predators such as raptors, skunks, or foxes.

The most important habitats for amphibians affected by the proposed action are the permanently or seasonally wet areas of the corridor. Reptiles could potentially use all habitats adjacent to the highway. All build alternatives would remove some habitat, but these **minor** losses **would** not have a major effect on local or regional reptile and amphibian populations.

Direct Impacts to Bird Species - Impacts to birds from the proposed action would be limited primarily to the loss of habitat. Between Columbia Heights and Badrock Canyon, there would be a minor loss of wetland habitat where the road crosses a cattail marsh. This loss is not considered to be important for local or regional populations of birds (such as rails or red-winged blackbirds), because the few birds which may be displaced should find acceptable habitat elsewhere in the corridor. The remaining habitat west of Badrock Canyon is marginal for birds due to suburban development and use as pasture and hayland. Some passerine bird species may nest in this habitat, but its loss would not have any major effect on local or regional populations.

The riparian habitat that would be lost to construction in and east of Badrock Canyon probably supplies nesting, roosting, and foraging habitat for various birds including grouse and raptors. Impacts to bald eagles and peregrine falcons are discussed in the Threatened or Endangered Species Impacts **section later** in this Part.

Other impacts to birds associated with the build alternatives would be from collisions with vehicles. More vehicle collisions with birds are expected due to higher traffic volumes and increased travel speeds. However, the wider road proposed for all build alternatives would increase the area for vehicles to maneuver and allow drivers to avoid birds on or adjacent to the road.

Direct Impacts to Small and Medium-sized Mammals - Some habitat for small mammals would be lost

due to construction, but this would not have a substantial effect on local or regional populations. The potential for mammal deaths due to vehicle collision would be increased for all build alternatives due to road widening, alignment improvements, increased travel speeds, and the projected increases in traffic volumes over the next twenty years.

Small mammals have been found to be reluctant to cross roads where the distance between forest margins was greater than 20 meters (66 feet) (15). Since the distance between forest cover presently exceeds this distance in many locations, widening the existing road would not create a greater barrier or risk to small mammals. Wide, divided highways may fragment gene pools in small mammal populations (15). This is unlikely to be a major concern for the proposed action since travel lanes would not be separated by a wide median.

The mid-sized mammals such as skunks, porcupines, and marmots would be more prone to deaths from increased traffic and travel speeds, especially when young animals are becoming mobile. However, these impacts would not adversely affect the local or regional populations of such species.

Direct Impacts to Predators and Furbearers - The most notable potential impact to these species represented by the build alternatives is the higher risk of highway-related mortalities. This is due to the increased distance between cover for animals crossing the wider roads associated with the build alternatives.

Few predatory or furbearing animals are seen between Columbia Heights and Hungry Horse, perhaps due to the level of human development and existing traffic volumes on US 2. Although all build alternatives would provide a wider facility than the existing highway, the action should not cause major adverse impacts to these species because they are seldom seen in the project area.

Direct Impacts to Ungulates - Scoping comments **indicated** that the proposed action will disrupt wildlife travel corridors for deer and elk through the project area. According to a biologist for the FWP, there is little daily or seasonal movement of animals between the Teakettle and Columbia Mountain areas (16). Consequently, US 2 has little existing impact on local ungulate populations. For this reason, the biologist felt that none of the reconstruction alternatives would substantially change the numbers of ungulates killed by vehicles.

Local residents **and a USFS wildlife biologist indicate** that a permanent population of white-tail deer reside in the pastures and haylands west of Badrock Canyon near the House of Mystery. These animals commonly cross US 2 to access the river or browse. **Deer** mortalities have resulted from these crossings of the highway and will continue to occur with or without the proposed action. The increased roadway **width** and **larger** cleared right-of-way associated with the build alternatives would provide more room for **avoidance maneuvers** and allow deer to be more easily seen along the highway.

Direct Impacts to Fish - Without the incorporation of erosion control measures, sediments transported by runoff from disturbed areas of the project site or from constituents of fill materials entering the Flathead River could adversely affect the local fishery. Sedimentation could increase silt in spawning gravels and rearing habitat, suffocate eggs or fry, and adversely affect habitat for aquatic life that is an important food source for fish.

Direct Impacts to Wildlife and Fish of Concern - Comments received on the Draft EIS suggest that the spring seeps in the outcrops at Berne Memorial Park in Badrock Canyon provide potential habitat for the Coeur d'Alene salamander. This species occurs at other locations in western Montana and may be found in spring seeps, waterfall spray zones, and along the streambanks of small cascading streams. Coeur d'Alene salamanders occur in wet, humid, and cool areas containing fractured bedrock and a dense overstory of trees. The outcrops at Berne Memorial Park

possess characteristics of habitat favored by Coeur d'Alene salamanders. Excavation of the western outcrop at the park would eliminate or alter some of these potential habitat conditions or cause mortalities, if Coeur d'Alene salamanders were present.

In response to comments on the Draft EIS and because no other studies have been done, potential habitat for Coeur d'Alene salamanders in Badrock Canyon was surveyed by zoologists. No Coeur d'Alene salamanders were found during three surveys of the drainages, talus slopes, and seeps and springs in the Berne Memorial Park area. Based on these surveys, zoologists concluded that the Coeur d'Alene salamander does not live in Badrock Canyon and would not be impacted by the proposed action.

Indirect Impacts on Wildlife and Fish - Revegetation of the disturbed right-of-way may attract animals to the roadside and increase the numbers of highway-related wildlife deaths. The lush growth on revegetated areas in the right-of-way may attract bears during the spring months. Ungulates may be attracted to revegetated areas during both winter and spring months (17).

If the numbers of road-killed small and large game animals increase with the construction of a new highway, more raptors may be attracted to the area and the potential for harm to these birds due to vehicle collisions may be increased. If **highway maintenance workers** or FWP personnel promptly remove all road-kills, this issue may not become important.

Cumulative Impacts on Wildlife and Fish - Over time, secondary development adjacent to US 2 would reduce the amount and quality of habitat for some species. Affected species would be displaced to more suitable habitat.

Mitigation - Careful selection of plant species used for revegetating disturbed areas of the right-of-way may help prevent wildlife from being attracted to the roadside. Plant species which are **not** highly palatable to ungulates or bears will be used for revegetating disturbed areas near the highway.

Efforts will be made to quantify the number of deer mortalities resulting from collisions with vehicles on US 2 between the House of Mystery and Badrock Canyon. These efforts will determine if the frequency of such incidents is higher at this location than at other road locations in the corridor. If appropriate, warning signs for this deer crossing area could be installed.

Highway designers will use the *Highway Construction Standard Erosion Control Work Plan* to identify measures to control erosion and sediment transport. The selection of these measures will be based on the distance to surface water or wetlands, precipitation intensity, soil properties, slopes, and the presence of critical resources (including prime fisheries). A Storm Water Erosion Control Plan, incorporating appropriate measures for the proposed construction project, will be developed and approved prior to the construction of the proposed project. The primary objective of the Storm Water Erosion Control Plan will be to minimize the erosion of disturbed areas and prevent the transport of sediments to wetlands or surface waters during the construction and post construction phases of the project.

All disturbed areas not occupied by project facilities will be promptly revegetated to stabilize soils and minimize erosion. Interim use of mulch or other erosion control practices may be necessary or recommended at certain locations along the project, such as at the new bridge location. These actions will minimize the potential for sediments to adversely affect fisheries in the project area.

Mitigating measures for impacts on threatened or endangered species are discussed in the following section.

4. THREATENED OR ENDANGERED SPECIES IMPACTS

Consultation with the USFWS - The USFWS was initially contacted to determine if any proposed or listed species or critical habitat **exists** in the project area. Because the agency identified the **existence** of four species in or near the project area and **the presence of important habitat for some species, it was necessary** to prepare a Biological Assessment identifying the potential effects of the proposed action on listed species and critical habitat.

Informal consultation was undertaken with the **USFWS** during the development of the Biological Assessment. These coordination efforts included contacting the agency to discuss the project on several occasions and providing the USFWS with an opportunity to review and comment on materials to be included in the Biological Assessment. At the conclusion of informal consultation activities, the Biological Assessment was submitted to the agency on October 28, 1991. A copy of the document is on file in Helena. The USFWS reviewed the Biological Assessment and issued a response (included in Part VI of the EIS) to the conclusions in the document on November 4, 1991.

Formal consultation regarding any listed species is necessary to complete the requirements of Section 7 of the Endangered Species Act if the proposed action may affect any listed species or critical habitat. In the agency's November 4, 1991 correspondence, the USFWS recommended that **formal consultation be initiated** regarding the proposed action's effects on bald eagles and habitat used by the species in Badrock Canyon. A written request to begin formal consultation was made to the USFWS on December 20, 1991 by the FHWA. A copy of this request is included in Part VI.

During formal consultation, the USFWS **was provided with various project materials and meetings with the agency were held**. The USFWS issued a Biological Opinion on March 24, 1992 (included in Part VI) to conclude the formal consultation process. **The Biological Opinion stated that the USFWS concurred with the determinations that the proposed action will not adversely affect the endangered gray wolf and peregrine falcon and the threatened grizzly bear. The Biological Opinion also indicated that the proposed highway reconstruction project is not likely to jeopardize the continued existence of the bald eagle.**

The paragraphs that follow summarize materials from the Biological Assessment and provide the results of USFWS consultation for listed species.

NORTHERN BALD EAGLE

Habitat and Use - The *Montana Bald Eagle Management Plan* (1986) indicates that the project area lies within Management Zone 7, the Upper Columbia Basin. This Management Zone includes all of Montana west of the Continental Divide, the Idaho Panhandle, and northeastern Washington. The Plan quantified existing numbers of eagles for the Zone and established population and habitat goals for the recovery of the species in the State. The Plan also established management guidelines for three categories of essential bald eagle habitat, currently occupied nesting habitat, potential nesting habitat, and migration/wintering habitat.

The habitat affected by the proposed action encompasses about 2.7 acres, and is located in the narrow (50-100 feet wide) band of vegetation between U.S. 2 and the Flathead River near Berne Memorial Park. According to the *Montana Bald Eagle Management Plan*, the riparian vegetation in the project area would be classified as winter/migration habitat. Bald eagles use mature cottonwoods and conifers in this riparian zone as hunting perches **(16,17,18,19,20)**. This riparian vegetation also provides screening which allows eagles foraging opportunities on waterfowl and shoreline carrion **(21)**.

Bald eagles migrate through the project corridor, typically arriving in late September and leaving in the

spring of the following year (22,23,24). Badrock Canyon is part of a "flight corridor" used by bald eagles traveling to and from the South Fork of the Flathead River and night roosts on the east face of Columbia Mountain during periods of migration (23). At least seven bald eagle roosts have been identified on the east side of Columbia Mountain (21).

No currently occupied nesting territories are known to occur along the Flathead River in the project area (16,17,18,25). The nearest known nesting sites are located along the east side of Hungry Horse Reservoir, at Lake McDonald in Glacier National Park, and at Cyclone Lake, in the drainage of the North Fork of the Flathead (26). The proposed action is not located within the zones generally designated as primary use areas (1/2 mile radius of nest) or home ranges (2 1/2 mile radius of nest) for eagles using these known sites.

Historically, great populations of bald eagles were attracted to the region to feed on large numbers of kokanee salmon that annually migrated up the Flathead River to spawn. The *Montana Bald Eagle Management Plan* stated that more than 1,000 eagles **once passed** through Glacier National Park each autumn, temporarily stopping to feed on kokanee salmon before continuing southward through western Montana. Peak daily counts at McDonald Creek in Glacier National Park exceeded 600 eagles during 1978 and 1981.

Since the mid-1980's, the number of eagles migrating to the upper Flathead River area declined dramatically due to the crash in migratory salmon populations caused by the introduction of a shrimp species to Flathead Lake (27,28,29). Historical count data for bald eagles at McDonald Creek clearly shows the rapid change in the use of the area by the species following the disruption of salmon migrations. Data from the National Park Service shows that the peak daily count of bald eagles at McDonald Creek was 520 in 1985 but had dropped to only 34 by 1988 (26).

In the project area, eagles typically preyed on kokanee at three spawning sites between the House of Mystery and Berne Memorial Park and at two sites near the confluence of the South and Middle Forks of the Flathead River (30). In early December of 1985, 41 bald eagles were observed between the House of Mystery and Hungry Horse Reservoir (21). No information on the distribution of bald eagles within this 6 mile-long corridor was provided with the December, 1985 peak count data.

Because of the important change in food sources for eagles that occurred, experts **were contacted** to determine the present use of Badrock Canyon by bald eagles. Experts indicated that fewer eagles forage in the Badrock Canyon area since the recent collapse of the kokanee salmon populations, however, casual observations indicate that eagles still continue to perch in the cottonwoods and spruce between US 2 and the river (21,26). No current estimates of the number of eagles that use habitat in Badrock Canyon were provided by those contacted during the preparation **of the EIS**.

The 1985 counts at McDonald Creek and along the Flathead River system between the House of Mystery and Hungry Horse Dam provide some indication of bald eagle distribution in the area. If such a relationship can be made, then the **low numbers of bald eagles at McDonald Creek** suggests that the riparian habitat between the House of Mystery and Hungry Horse Dam is used by only a few bald eagles.

Direct Effects - The proposed road construction would remove riparian **cottonwoods and conifers that serve as potential** perching sites and provide screening for eagles **foraging** along the river bank. This habitat generally **occurs in areas with Type R-7 vegetation and Type W-7 wetlands as shown on FIGURE III-6**. The Draft EIS indicated that **construction of the riprap-faced embankments along the Flathead River as initially proposed for the two-lane and four-lane build alternatives, would remove from 1.7 to 2.7 acres of the estimated 21.3 total acres of this riparian vegetation that exists between Berne Road and Hungry Horse**.

Comments on the Draft EIS required that design modifications be evaluated to determine if the encroachment on the Flathead River in Badrock Canyon could be reduced. Project investigations show that designs incorporating vertical retaining walls, steepened embankments, or structures would reduce the encroachment but would also still severely impact the affected riparian habitat in Badrock Canyon. However, the majority of the design modifications evaluated for US 2 in Badrock Canyon would impact the riparian vegetation less than the designs for the build alternatives proposed in the Draft EIS.

The preferred alternative for US 2 in Badrock Canyon now includes a vertical retaining wall to minimize encroachment on the Flathead River. A vertical, mechanically-stabilized earth retaining wall has been proposed for this area to minimize the amount of vegetation that must be removed from along the river bank to accommodate the new road. This type of retaining wall was preferred since much of the area disturbed by the construction of such a wall occurs behind the face of the wall. The vertical retaining wall would also allow for revegetation to occur to the face of the wall.

As Plate 2 of **FIGURE III-6** shows, the dense screen of riparian vegetation along the Flathead River is absent for some 3,000 feet east of Berne Road. This disruption in the tree screen is due to a change in terrain which naturally constricted the river channel and to previous road construction which placed fill in the river at the west end of Badrock Canyon. **Design studies have shown that a vertical retaining wall would leave an isolated 20-30 foot-wide band of vegetation between Project Stations 608+50 to 612+50 and remove other vegetation along the bank to Station 615+00, where the continuous band of riparian vegetation would resume.**

Comments received from several concerned wildlife biologists stated that the removal of these trees reduces potential foraging sites and may affect the flight paths of bald eagles (23,25,31). Further, the loss of this screening vegetation along the river may increase the distance at which eagles are flushed by human activity (21). **One expert felt that further removal of riparian vegetation would increase the severity of the previous destruction of riparian habitat in Badrock Canyon (21).**

If salmon populations remain low, the existing numbers of perching snags and trees are plentiful enough that removal of a few trees would have a minor effect on migratory eagles using this particular area (16,17,18). However, if kokanee populations reach their former levels and high seasonal use of the area by bald eagles eventually returns, the number of available perching sites along the river in Badrock Canyon increases substantially in importance.

The likelihood that kokanee populations will return to historic levels was discussed with fishery managers in the region. These experts indicated that recent restocking efforts in Flathead Lake are key to the restoration of the kokanee fishery in the Flathead River system (27,28). Experts were hesitant to speculate if kokanee populations will eventually return to former levels because more time is needed before the success of restocking programs can be evaluated.

Some experts are optimistic that Great Lakes whitefish, a species which also migrates upriver from Flathead Lake to spawn, may provide an alternate food source for migrating eagles. Whitefish populations in the Flathead River system are increasing and may ultimately reach a level that attracts a sizable bald eagle population (21,28). In the opinion of one expert, the elimination of remaining perch and screening vegetation in the project area would render the habitat unsuitable regardless of any improvement in the eagle's prey base (21).

The proposed action would directly affect minor areas of riparian vegetation at the site of proposed river access site near the House of Mystery and at the proposed crossing of the South Fork of the Flathead River immediately upstream of the existing bridge. The construction of a boat ramp at the proposed river access would require that an area of riparian vegetation approximately 40 feet by 80 feet be cleared to

accommodate the construction of the ramp. This construction would produce a 40 foot-wide disruption in the continuous screen of riparian shrub vegetation dominated by willows, red-osier dogwood, Rocky Mountain maple, and alder. Additionally, construction of a vehicle parking area and an access road to the boat ramp would require the clearing of an area some 50 feet by 300 feet from the same vegetation community. The total required clearing at this site is estimated to be 0.4 acres, the majority of which would be for the parking area and access road.

The impacts on riparian vegetation and bald eagles due to the proposed construction of the boat ramp would be minor. This vegetation type is common in the project area and the direct disruption in screening along the river would not be significant. The proposed parking area and road construction would disturb only the "highway side" of the existing screen riparian of vegetation and would maintain a band of vegetation approximately 80 feet wide between the parking area and the river. The type of vegetation (thinly branched shrubs of moderate height) present at this site would not appear to provide usable temporary perching sites for foraging bald eagles.

The proposed river access would increase human presence in this area of the project corridor significantly. The adverse effects of this increased human activity on bald eagles is not expected to be significant since the peak period of facility use (late spring and summer) would not coincide with the presence of eagles in the area. The **USFS**, the agency which would operate the facility, would not allow the ramp to be open year round. The facility would have a lockable barricade to formally limit public use and would be operated seasonally, like its river access site at West Glacier.

Minor amounts of riparian vegetation would also be cleared to accommodate the construction of a new bridge over the South Fork of the Flathead River and its approaches, immediately west of Hungry Horse. The new four-lane structure would be constructed parallel to and slightly downstream from the existing bridge. The riparian area affected by the proposed bridge construction is unvegetated within the floodplain of the South Fork and is bordered by a narrow (75-100 feet wide) stand of riparian cottonwood and conifers. Similar vegetation in Badrock Canyon is used as temporary perching sites by foraging bald eagles. General forest cover, consisting primarily of subalpine fir, exists adjacent to the riparian cottonwood and conifer habitat. Please refer to **Plate 3 of FIGURE III-6** in Part III for the location of these vegetation communities.

The construction of the approach to the new bridge over the South Fork would require the removal of 0.35 acres of riparian cottonwoods and conifers on the west side of the **river**, immediately north of the existing bridge. The stand of similar **riparian** vegetation on the east side of the river would not be disturbed by construction, **although other timber must be cleared on the east approach to the new bridge**. Removing this vegetation is not expected to **cause notable adverse effects on** bald eagles due to its proximity to the existing bridge.

Although kokanee spawning beds are known to exist nearby at the confluence of the South and Middle Forks of the Flathead, it is unlikely this section of river at the bridge site contains spawning grounds due to the daily fluctuations in water levels in the South Fork caused by power generation at Hungry Horse Dam. Therefore, the riparian vegetation affected by bridge construction would not be expected to be extensively used as perching sites by bald eagles. The vegetation does provide screening along a travel corridor used by migrating bald eagles.

Indirect Effects - The major indirect effect of the proposed action would be the potential for human-caused eagle mortalities due to the presence of the highway. Eagles could be injured or killed by collisions with moving vehicles if they chose to feed on carrion on or along US 2. Because the proposed action would reconstruct a new highway on essentially the same alignment as the existing one and because traffic would increase with or without the project, the potential for accidental deaths or injuries to bald eagles would not be substantially increased with an improved traffic facility.

Cumulative Effects - The continued fragmentation of habitat and loss of riparian vegetation due to logging and other development may eventually affect the eagle's ability to adequately use the prey base **(25)**. The *Montana Bald Eagle Management Plan* emphasized that even though bald eagle populations have increased in recent years, the continued alteration and removal of suitable habitat due to human activities may affect the long-term success of recovery efforts in the State.

The habitat removed from the area would be a minor loss because the proposed action would affect about 10% or less of the Type R-7 riparian vegetation that exists between Berne Road and Hungry Horse. Given the current levels of habitat use in the area, sufficient perching opportunities along the Flathead River between the House of Mystery and Hungry Horse Dam will continue to exist with the proposed action.

Riparian habitat similar to that affected by the proposed action is abundant immediately upstream from the project area along river corridors. The a 54-mile long section of the Middle Fork of the Flathead River upstream from Hungry Horse to Bear Creek has been designated as a Recreational River Segment of the Flathead Wild and Scenic River System. In conjunction with this designation, the USFS identified a River Management Zone and administers lands within the Zone to preserve important river values. Management guidelines for the Zone generally protect riparian vegetation that contributes to important river values and wildlife habitat. Many acres of habitat similar to that affected by the proposed action exists within the River Management Zone.

Measures to Avoid or Reduce Adverse Impacts - In an effort to enhance habitat for bald eagles in the project area, abandoned highway right-of-way will **be reclaimed and revegetated with** ponderosa pine, Douglas-fir, **spruce, and shrubs**. Since the proposed alignment closely follows the present highway through the project area, limited opportunities exist for reclaiming large areas of abandoned right-of-way. Two locations where alignment changes would allow such revegetation efforts to be implemented exist between Berne Memorial Park and Hungry Horse. The proposed alignment would place the road further from the river and increase the depth of the tree screen in the area immediately east of Berne Memorial Park.

In addition to constructing a vertical retaining wall adjacent to the Flathead River in Badrock Canyon, other measures **will be incorporated** into the proposed action to minimize impacts on bald eagles and their habitat including:

- Scheduling construction activities east of Berne Road (from Milepost 140.2 to 142.7) for a time when eagles would not be displaced from hunting perches or roosts, typically mid-October through mid-March.
- Instructing maintenance personnel to promptly remove road-killed wildlife so bald eagles would not be attracted to the carrion on the highway and inadvertently injured by passing vehicles. Carrion would be disposed of in a proper manner.
- Consulting the USFWS and initiating a management plan if bald eagles establish a nest territory within one-half mile of the project area prior to construction. This will ensure that adverse impacts to the site or the eagles do not occur.
- Identifying and modifying existing powerlines or poles that pose an electrocution or collision threat to eagles. Any relocated electrical facilities would be designed to maximize the safety of raptors if such concerns are expressed by reviewing agencies.
- Contacting the Montana Bald Eagle Working Group for assistance in developing an interpretive exhibit sign about bald eagles in the Flathead River region. Such a sign would

be displayed at an appropriate location within the corridor. This presents an excellent opportunity to increase the public's awareness about habitat use, eagle behavior, and issues pertinent to recovery efforts for the species.

If kokanee populations return to their former levels, high numbers of eagles may again be attracted to the area during the salmon spawning run. In response to this situation, cottonwoods and/or other fast-growing saplings **could be planted** to eventually replace lost perching sites. It may be beneficial to implement such actions on the opposite (north) side of the river to shift eagle use away from the highway and potential conflicts with vehicles.

Conclusion - After reviewing materials assembled for the Biological Assessment, **it was concluded** that the proposed action **is not likely to adversely affect** bald eagles or habitat used by bald eagles. This conclusion was made because:

1. There are no bald eagle nesting sites in the project corridor.
2. Potential nesting territories for this region are fairly well-occupied. The presence and level of human activities in the project area is not a characteristic of suitable nesting habitat for bald eagles.
3. Bald eagle use of habitat in the Badrock Canyon area has decreased dramatically in recent years due a disruption in traditional food sources for wintering eagles. The possibility that kokanee salmon populations will return to former levels or that spawning whitefish will provide an abundant food source and again attract large numbers of bald eagles to the Flathead River is uncertain.
4. The cumulative effects of the proposed action on local and regional populations of bald eagles are expected to be minor. The proposed action will affect only 13% of the riparian cottonwood and conifer habitat that exists in project area between Berne road and Hungry Horse. Similar habitat is common in the Flathead region and can be found nearby along the South and Middle Forks of the Flathead River.
5. The affected band of vegetation has an average width of 50 to 75 feet and is directly adjacent to the highway. The highway and related noise and human activities at nearby Berne Memorial Park compromises the quality of this habitat.
6. Approximately 3,000 feet of bare or sparsely vegetated riverbank separates the affected habitat from other riparian vegetation at the west end of Badrock Canyon. The proposed action would not substantially reduce the amount of habitat available for seasonal use by bald eagles.
7. Viable conservation measures will be incorporated with the proposed action to enhance habitat or protect bald eagles.

The USFWS reviewed the Biological Assessment and disagreed with **the conclusion in the document** that the proposed action is not likely to adversely affect bald eagles. The USFWS recommended that formal consultation regarding bald eagles be initiated in its November 4, 1991 correspondence. Formal consultation was **initiated and subsequently** concluded on March 24, 1992 with the issuance of a "No Jeopardy" opinion by the USFWS. This Opinion, included **on pages VI-41 to VI-45** of the EIS, indicated that the proposed action is not likely to jeopardize the continued existence of bald eagles.

The Biological Opinion recommended that a study **be undertaken** to evaluate enhancement opportunities

and/or purchase riparian and riverine habitats within the project area. **As recommended by the USFWS, opportunities to acquire riparian and riverine habitat in the project area that serves as important habitat for bald eagles will be examined. Recognized experts on bald eagles and other interested agencies or groups (USFWS, USFS, Montana Bald Eagle Working Group, the FWP, and others as appropriate) will be contacted to identify enhancement opportunities and bald eagle habitat in the project area which may be desirable to protect. The status of lands possessing important riparian habitat and the ability to acquire such properties will be investigated as part of the study effort. This study would be completed prior to construction of the proposed action.**

PEREGRINE FALCON

Habitat and Use - Peregrine falcons have used the area near the proposed project only during seasonal migrations (17,18,25,32). No historical information exists that peregrines have nested in the vicinity of this project.

Direct Impacts - The proposed action would not disturb any essential habitat or disrupt any nesting sites used by peregrine falcons.

Indirect Impacts - No indirect impacts on peregrine falcons would result from the proposed action.

Cumulative Impacts - There would be no cumulative effects of the proposed action that would increase any impacts on local or regional populations of peregrine falcons.

Conclusion - Due to the lack of current and historical use of habitat in the vicinity of the project, the proposed action is **not likely to adversely affect** peregrine falcons. The USFWS concurred with this determination in its Biological Opinion (March 24, 1992) included in Part VI.

NORTHERN ROCKY MOUNTAIN GRAY WOLF

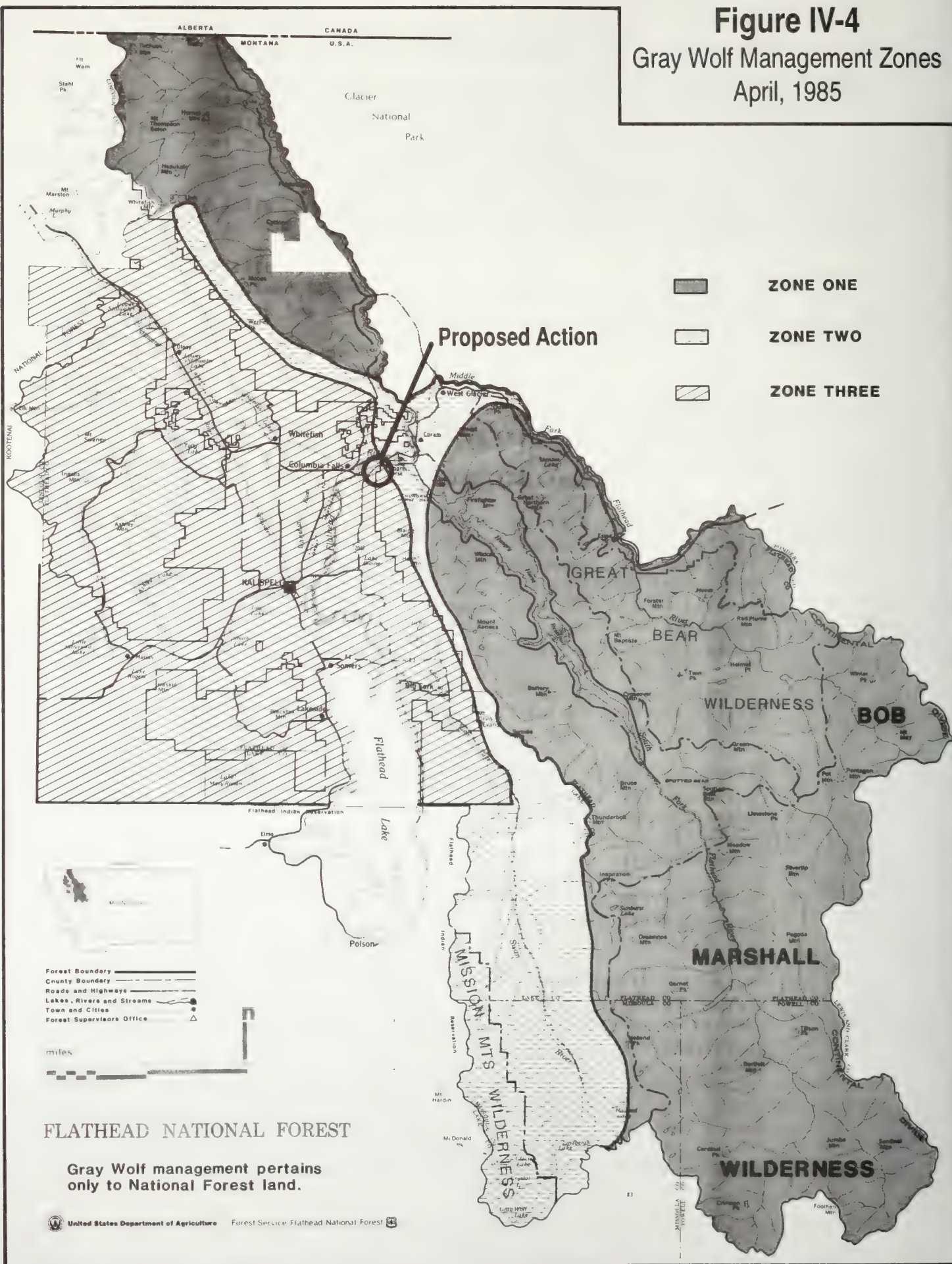
Habitat and Use - Wolves have occasionally been sighted in the upper Flathead River region, but there have been no documented sightings in the vicinity of the project (16,18,33,34). Habitat which provides an ungulate prey base and secure cover is important to wolves and is similar in many respects to that of grizzly bears (18,34,35). There is limited security cover of high quality for grizzlies (or wolves) immediately adjacent to the project area because of the existing level of development and human activity (16,34,36).

The USFS has designated Flathead National Forest lands between Columbia Heights and Badrock Canyon as a Zone 3 Management area (37). This designation applies to areas developed by man that have enough human activity to indicate that the presence of wolves is undesirable. The Badrock Canyon to Hungry Horse segment of the corridor is designated as Zone 2. These areas serve as buffers between high quality wolf habitat (Zone 1 areas further north and south of the project corridor) and areas that may be travel corridors or provide important habitat features. USFS gray wolf management zones are shown on **FIGURE IV-4**.

There is no existing information that suggests wolves presently use habitat adjoining the project area, either north of the highway on Teakettle Mountain or south of it on Columbia Mountain. Likewise, no information exists that indicates wolves cross the highway between these areas (16,18,33,34). Wolves are not known to den near the project area.

Direct Impacts - No direct impacts on wolves would occur due to the proposed action because habitat in the project area does not appear to be used by wolves. This is further supported by the lack of documented wolf sightings in the project area. The proposed action would not impact cover used by wolves for security or the ungulate prey base of the species. The high level of existing human development and activity in the corridor also inhibits the use of the project area by wolves.

Figure IV-4
Gray Wolf Management Zones
April, 1985



Indirect Effects - No indirect impacts on wolves would occur as a result of the proposed action.

Cumulative Effects - The only cumulative effect on wolves that may occur is the eventual loss or degradation of habitat due to the continued development of rural lands along the highway.

Conclusion - Based on the above considerations and discussions with experts, it was concluded that the proposed action is **not likely to adversely affect** local or regional wolf populations. The USFWS concurred with this determination in its Biological Opinion (March 24, 1992) included in Part VI.

GRIZZLY BEAR

Habitat and Use - The *Grizzly Bear Recovery Plan, Second Draft* (June 1992), states that recovery zones for the species are the areas contained in each grizzly bear ecosystem within which the population and habitat criteria for achievement of recovery will be measured. Each recovery zone is divided into areas designated as Bear Management Units (BMUs) which are used for habitat evaluation and population monitoring. According to detailed mapping of the NCDE recovery zone and associated BMUs, the project area lies within the Hungry Horse Bear Management Unit (38).

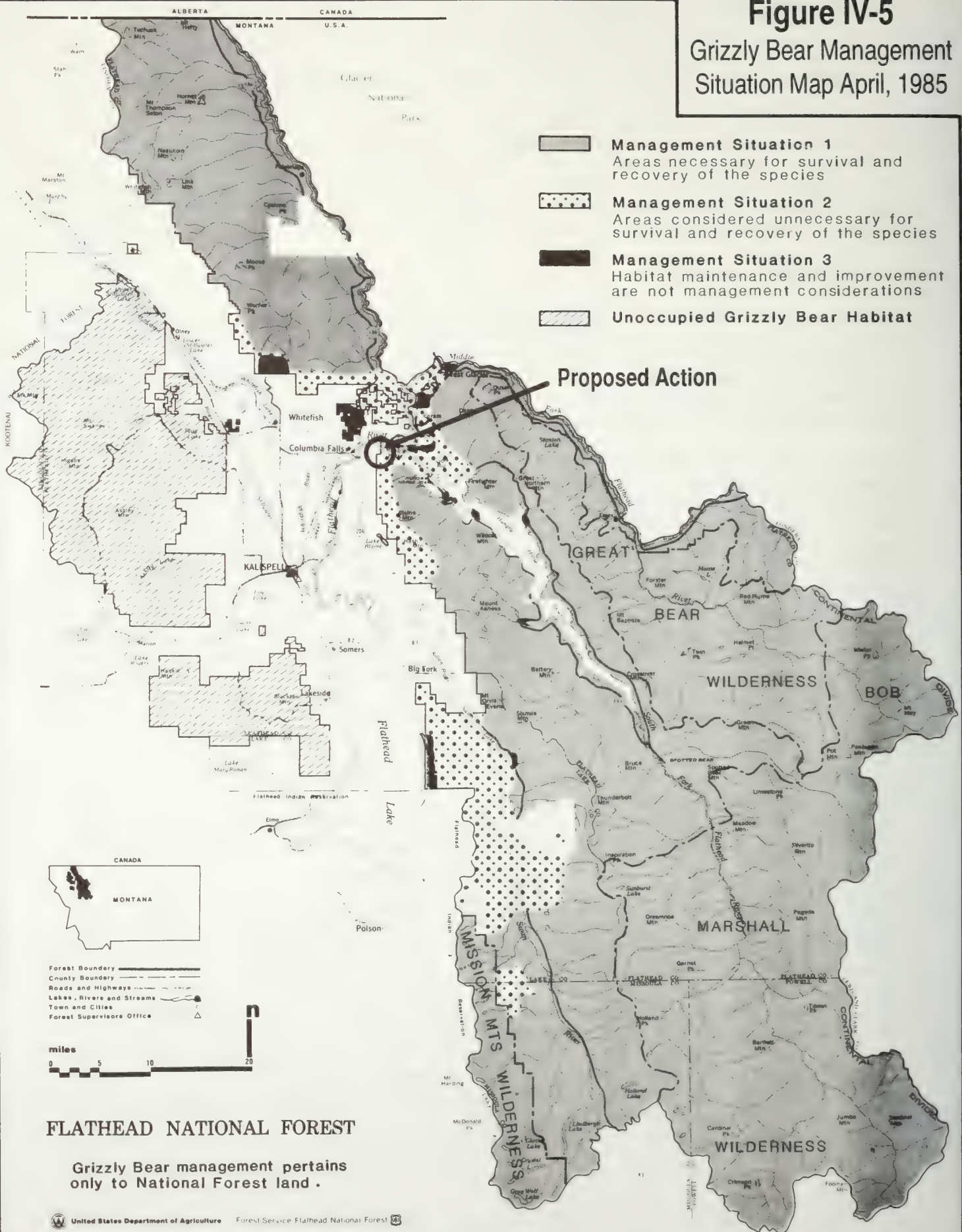
The discussion of Bear Management Units (BMUs) and the figure showing BMUs presented in the Draft EIS was based on mapping and other information obtained from the *Final Programmatic Environmental Impact Statement Summary, The Grizzly Bear in Northwestern Montana* prepared by the Montana FWP in March, 1986. This document referenced Grizzly BMUs, however, the term related to a state management situation which allowed limited harvests of the grizzly bear. The FWP's use of the term BMU is applied to grizzly bear ecosystems management in an entirely different context than that referenced in the *Grizzly Bear Recovery Plan*. Therefore, FIGURE 23 in the Draft EIS and references to the Whitefish BMU were deleted from the Final EIS.

Grizzly habitat has also been categorized by the USFS according to three Management Situations based on its quality and the distribution of bears within the NCDE (39). Grizzly Bear Management Situations are presented in FIGURE IV-5. The portion of the project corridor west of Badrock Canyon does not lie within grizzly bear habitat. The segment of US 2 that extends through Badrock Canyon to Hungry Horse is located in a Management Situation 2 area (38). This designation applies to areas "considered unnecessary for survival and recovery, although the status of such areas is subject to review and change according to demonstrated grizzly bear population and habitat needs." The USFS indicates that although these areas lack distinct grizzly population centers and highly suitable habitat does not generally occur, some grizzly habitat components exist and grizzlies may occasionally be present (39). The status of such areas is subject to review and change according to demonstrated grizzly population and habitat needs.

Management Situation 1 areas are located several miles north and south of the project corridor. These lands are necessary for the survival and recovery of the species. Although there is suitable habitat located in the Management Situation 1 lands north and south of the corridor, field studies conducted by FWP biologists show that these areas have not been utilized much by grizzlies (16,36).

There have been no sightings of grizzlies on or near the section of US 2 proposed for reconstruction. This lack of sightings does not suggest that the area is of little or no importance to grizzlies (16). These lands may be occasionally used by grizzlies, but are probably on the fringes of any grizzly home ranges (16,18,40,41). During the development of the EIS, the Coalition for Canyon Preservation provided wildlife observation forms indicating that grizzly bears have been sighted in the general area of US 2 between the House of Mystery and Hungry Horse. Bears may use a portion of the project area as a movement corridor between the Swan and Whitefish Ranges, although there is no evidence to verify such use (16,36).

Figure IV-5
Grizzly Bear Management
Situation Map April, 1985



Direct Impacts - Many animals, including grizzlies, depend on security or escape cover and are often reluctant to cross any large open expanse. Grizzly bears typically use fingers of vegetation as hiding places (cover) before crossing openings. The proposed action would widen the existing opening by removing potential cover from the right-of-way. Clearing would affect the vegetation most severely near Berne Memorial Park where trees between the river and the highway would be removed. Additional cover would be lost between the park and Hungry Horse.

The proposed action would not remove foraging or security cover that is important habitat to grizzly bears. If this area was known to be valuable for bears moving from a home range south of US 2 to important habitat north of the road, right-of-way clearing and corridor widening could adversely affect the bears. However, due to a lack of evidence showing that grizzlies use the Badrock Canyon to Hungry Horse area as a travel corridor, no disruptions of bear movements would be expected from the proposed action.

Indirect Impacts - Grizzlies may be attracted to the lush spring growth on revegetated areas of the right-of-way. If this occurs, conflicts between bears and vehicles may arise and the possibility of grizzly injuries or deaths would be increased. Since grizzly bears have not been sighted near or in the proposed construction area, the probability of vehicle-bear collisions should not increase with the improvement of US 2.

Cumulative Impacts - There are many timber sales, improvements, and developments occurring in the NCDE, which together compromise habitat needed for the security of grizzly bears. The additional impact from small projects within the NCDE is difficult to assess, but it is realized that every action adds to the cumulative effects on the species to some extent. The proposed action would not directly affect grizzlies, but would, on a low level, increase the cumulative effects on bears in the NCDE.

Measures to Avoid or Reduce Adverse Impacts - Impacts to existing vegetation along the highway and between the road and the river should be kept to a minimum. The new right-of-way should not be fenced and concrete median barriers that could restrict movements or trap bears on the highway should not be used (40,41).

The highway and the cleared right-of-way corridor should be kept as narrow as possible. Plants used for revegetating disturbed areas should be of low palatability so that bears and other wildlife will not be attracted to the roadside. Road-killed animals should be removed immediately to avoid attracting bears and other predators.

Conclusion - Based on a review of the literature pertinent to grizzly bears and from communications with biologists familiar with the project area, the proposed action is **not likely to adversely affect** grizzly bears or their habitat. The USFWS agreed with this determination in its Biological Opinion (March 24, 1992) included in Part VI.

5. IMPACTS TO ENVIRONMENTALLY SENSITIVE AREAS

The following paragraphs describe the effects of the proposed action on the environmentally sensitive areas shown in **FIGURE III-7** and discussed in Part III of the EIS.

Direct Impacts - The proposed action **would not directly** impacts on the UNESCO-designated Biosphere Reserve that includes Glacier National Park and Waterton Lakes National Park in Alberta, the Great Bear Wilderness and adjoining Wilderness Areas, **the Coram Experimental Forest, or the Mission Mountains Tribal Wilderness Area**. Two sensitive areas, the Northern Continental Divide Grizzly Bear Ecosystem (NCDE) and Badrock Canyon, **would** be directly affected by the proposed reconstruction of US 2.

As indicated earlier, the proposed action lies at the extreme western edge of the NCDE in the

Hungry Horse Grizzly Bear Management Unit. Only the Badrock Canyon to Hungry Horse segment of US 2 (approximately 2 miles) lies within the NCDE. The proposed highway reconstruction **would** directly affect the NCDE by removing vegetation from new right-of-way areas where the alignment of US 2 is improved. This vegetation is one of many habitat components that may be used by grizzly bears. The portion of the NCDE through which the highway passes is not critical habitat for grizzlies, but may occasionally support bears. The minor amounts of habitat lost to the build alternatives in this bear management unit is not important to grizzlies for foraging or cover. The impacts to grizzly bears in the NCDE was discussed in a previous section of Part IV.

The Final EIS/Section 4(f) Evaluation for the reconstruction of US 2 between Hungry Horse and West Glacier identified Badrock Canyon as an environmentally sensitive area. The summary of scoping comments contained in Part VI of the EIS shows that potential impacts on Badrock Canyon from highway reconstruction remains an important concern to the public. The proposed action's effects on Badrock Canyon **would** include visual impacts **due to the excavation of the rock outcrop at the west end of Berne Memorial Park**, removal of riparian vegetation, and impacts to **the features and use of Berne Memorial Park**. These impacts have been or will be discussed **elsewhere** in this Part and in the Section 4(f) Evaluation.

Indirect Impacts - The proposed reconstruction of US 2 **would** produce minor, indirect benefits for visitors to the Great Bear Wilderness and the Coram Experimental Forest by making a portion of the route used to access these areas safer and less congested. **The proposed action would have no indirect effect on the Mission Mountains Tribal Wilderness Area.**

Similarly, the proposed action **would improve access to** Glacier National Park by providing a safer roadway for visitors and NPS employees who commute from the Flathead Valley to West Glacier. This reconstruction effort **would** help to relieve traffic congestion and improve access along the route. Scoping comments by NPS employees stressed the need for a safe travel route to the park.

The project has the potential to produce more notable indirect impacts on Glacier National Park by affecting the appearance and development of lands along the primary access route to the park. The lands in the project area serve as a transition to environment of Glacier National Park and probably influence the initial impressions of the area for visitors. Continued development along the route to the park would detract from the unique natural qualities of the Glacier region.

The improved highway and access provisions could stimulate additional development on private lands between Columbia Heights and West Glacier. Although the *Flathead County Master Plan* and the *Columbia Falls Planning Jurisdiction Master Plan* contain policies which discourage new strip commercial areas along US 2, no land use controls have been enacted to regulate such developments in these rural areas. There are no major differences between alternatives in their potential to produce secondary development in the project corridor.

Secondary development along the highway **would** produce indirect impacts to the NCDE by reducing or degrading grizzly bear habitat.

The only major indirect impact on Badrock Canyon **would** be a change in its recreational use caused by relocating facilities from Berne Memorial Park to an alternate site near the House of Mystery. This action and its effects are discussed further in Part V of the EIS.

Cumulative Impacts - Human activities, including the reconstruction of US 2, timber harvest, residential and commercial development, rural subdivision, and recreational use have and will continue to have cumulative impacts that reduce the capacity for the grizzly bear. The existence of the current highway in Badrock Canyon is having effects, but effects will not substantially

increase due to the proposed improvement of the route.

D. Human Environment

1. LAND USE IMPACTS

Direct Impacts - Primary land uses in the project corridor **would** not change substantially due to the proposed improvement of US 2. Commercial uses will predominate and be enhanced by improved access in Columbia Heights. Residential and rural agricultural uses will continue along the corridor between Columbia Heights and the House of Mystery in the foreseeable future.

Indirect Impacts - The *Flathead County Master Plan* identified strip commercial development (similar to that in Columbia Heights) as a major planning issue. The Plan cites conflicts between through traffic and business traffic as a major cause of accidents and the need for highway improvements in such areas. Further, the Plan adopted policies that discourage strip commercial development in the county, including the area along US 2 in the project corridor.

The planned improvements would contribute to additional residential and commercial growth along the highway by providing improved facilities and access. There are no discernible differences between the build alternatives in the stimulation of secondary development in the project corridor. Lands along US 2 are not **presently** zoned, so only those activities that occur in the right-of-way or that require access from the highway can be controlled by MDT.

In response to a mandate to implement county-wide zoning from the Commissioners of Flathead County, the Canyon Citizen Initiated Zoning Group (CCIZG) was formed in June, 1992. The purpose of the CCIZG was to develop a growth management plan for the "Canyon" area (generally lands along US 2 between the House of Mystery west of Badrock Canyon and Marias Pass). The CCIZG, comprised of residents of communities and rural areas along this section of US 2, was concerned about unplanned growth and development-related problems in this part of Flathead County. The members of the CCIZG were interested in implementing zoning or other options to manage growth along this highway corridor.

As indicated earlier in this Part, the NPS is helping several local and state agencies and non-profit organizations undertake a planning study to recognize current and potential management concerns for the Flathead River and identify opportunities for conserving the river, developing trails, and managing other resources associated with the river corridor. The Flathead Multi-Objective River Corridor Plan could ultimately be adopted as part of the *Flathead County Master Plan*.

Cumulative Impacts - Over time, induced development along US Highways 2 and 93 and continuing residential and commercial growth in Flathead County may affect the quality of life for some residents and alter the perceptions of the Flathead region for visitors.

Mitigation - The acquisition of several large private landholdings in and around Badrock Canyon has been proposed in an attempt to control the development of incompatible land uses along US 2 between Berne Road and Hungry Horse. The proposed acquisition would provide the right-of-way necessary for the proposed action and place nearly all of Badrock Canyon in the public domain by transferring ownership of the lands to the Flathead National Forest. **These** intentions are consistent with the planning policies contained in the *Flathead County Master Plan* and would effectively control development between Berne Road and Hungry Horse.

Property owners were initially contacted about this proposed land acquisition in April, 1990. A Categorical Exclusion examining the effects of the proposed land acquisition was prepared and **ultimately**

approved by FHWA on September 4, 1990. Formal efforts to secure options or purchase private lands began shortly after the approval of the environmental document. To date, **none of the private lands in Badrock Canyon have been acquired. However, 38 acres of land surrounding the House of Mystery and a large parcel opposite the House of Mystery and west of Berne Road have been purchased.**

In late 1992, the CCIZG petitioned MDT and other interested agencies for funding and technical support to help the group prepare a growth management plan for the US 2 corridor. In April, 1993, MDT and other agencies agreed to contribute funding and other forms of assistance to this local planning initiative. Shortly after funding was secured, a consulting land use planner was hired to begin work on the plan. The Canyon Plan was developed during the remainder of 1993 and early 1994. Flathead County adopted The Canyon Plan as an amendment to its Master Plan in May, 1994.

2. RELOCATION IMPACTS

Direct Impacts - The relocation impacts of the proposed action were estimated from the preliminary right-of-way plans developed for each road design alternative. **A relocation plan based on the right-of-way requirements will be prepared for the selected build alternative.**

In addition to land acquisition for new right-of-way, the displacement of households and businesses from private lands next to the highway are the most notable direct impacts of highway construction. **Based on preliminary designs, the properties listed below in TABLE IV-6 would be affected by the preferred alternative.**

The properties in TABLE IV-6 are referenced to the right (south side of US 2) or left (north side of US 2) from proposed centerline stations established for this project. Existing structures, project stationing, and the existing and proposed right-of-way for US 2 are shown on the preliminary plan drawings in APPENDIX 4. These drawings show the relationship between existing structures and the construction limits and right-of-way requirements for the preferred alternative. Similar project stationing was used for the preliminary designs of other alternatives.

Note that "R/W Encroachments" referred to in TABLE IV-6 are locations where new construction would require a substantial amount of property adjacent to the identified use. The new road would not require relocations in these instances, but highway construction may affect the use of the property. Design modifications like adjustments to roadside slopes could lessen the encroachment of the highway on some adjacent properties. These right-of-way impacts would not vary substantially for any build alternative.

The proposed reconstruction at the west edge of Hungry Horse would be accomplished within the highway or street right-of-way that already exists on the north side of US 2. Construction permits may have to be obtained for some residential lots adjacent to 6th Street West in Hungry Horse where construction activities may cause minor disturbances to these properties. The proposed reconstruction in this area would not require the relocation of any residences or businesses in Hungry Horse.

Depending upon the build alternative examined, between four and six residences would be displaced by the proposed highway reconstruction. Residential displacements would directly affect some 10 to 20 residents of the project corridor. Displaced home owners will be eligible for relocation assistance for moving and replacement housing expenses. **Most of the residential displacements would occur east of Columbia Heights in the vicinity of Monte Vista Drive. The number of residential displacements could be reduced if the location for the new highway was shifted slightly to the north. The feasibility of this alignment shift will be examined during the design of the new road.**

**TABLE IV-6
POTENTIAL RIGHT-OF-WAY IMPACTS AND RELOCATIONS
FOR BUILD ALTERNATIVES**

Station	Property	Type of R/W Impact (Alternative Producing Impact)
466+50,RT	Weigh Station	Relocation (All Build Alts.)
467+10,LT	A&W Restaurant	R/W Abuts Building (All Build Alts.)
472+90,LT	Montana Earth Pottery	R/W Abuts Building (All Build Alts.)
483+50,LT	Flying Eagle Gallery	R/W Abuts Building (All Build Alts.)
492+00,LT	Old Time Photo Co.	Business Relocation (All Build Alts.)
494+00 to 500+00,LT	Grizzly Go-Carts & Batting Cages	R/W Encroachment (All Build Alts.) May Affect Use of Go-Cart Track
500+00,RT	House	Relocation (All Build Alts.)
505+00,RT	House Shed	R/W Encroachment (All Build Alts.) Relocation (All Build Alts.)
516+00,RT	House	Relocation (Alts. 1 and 2)
518+10,RT	House	Relocation (All Build Alts.)
523+50,RT	House Cabin	R/W Encroachment (All Build Alts.) Relocation (Alts. 1 and 2)
524+50,LT	House	R/W Encroachment (All Build Alts.)
527+00,RT	House Taxidermy Shop	Relocation (Alts. 1 and 2) R/W Encroachment (Alts. 3 and 4) Business Relocation (All Build Alts.)
529+00,RT	House	R/W Encroachment (All Build Alts.)
535+00,RT	Takala Wholesale Cars	R/W Encroachment (All Build Alts.)
537+60,RT	Shed	Relocation (All Build Alts.)

Two businesses would be directly affected by all build alternatives. A building at the **Old Time Photo Company located at the east end of Columbia Heights** and a **home/taxidermy shop located near the intersection of US 2 and Monte Vista Drive** would be affected by **new highway construction**. All build alternatives would displace the home/business. This displacement was considered above in the discussion of displaced households. The displacement effects on these businesses in its relocation plan **will be addressed further** if the proposed action **advances** to the design stage. Business owners affected by the project will be eligible for relocation assistance. **Information compiled by the Flathead Board of Realtors indicated that 108 commercial properties, with asking prices between \$23,600 and \$2.6 million, were for sale in the County at the end of 1993 (42).**

The existing weigh station in Columbia Heights would be abandoned instead of reconstructed with the new highway project. This decision was reached because the facility is located in a congested area and its operation causes conflicts to occur between through traffic on US 2 and trucks using the scales. The Project Analysis and Programming Engineer recommended that a GVW "B" site, a widened area adjacent to the roadway where portable scales can be periodically stationed, be developed within the limits of the proposed action. The Engineer's recommendation did not specify

an exact location for the GVW "B" site within the project area but indicated that it should be constructed on the north side of the road adjacent to the westbound travel lanes of the new facility.

There are no neighborhoods, public facilities, non-profit organizations, or special family groups that will be directly or indirectly affected by the proposed action.

Indirect Impacts - The build alternatives would acquire minor amounts of new right-of-way in the corridor from lands presently used as residential yards or commercial parking areas. These acquisitions would not displace affected households or businesses but would indirectly impact uses at each location. The new highway and traffic would have notable encroachment effects on two residences in the corridor. Some lands currently used as parking areas would be removed at eight businesses along US 2. These effects are similar for all build alternatives.

Cumulative Impacts - There are no cumulative effects foreseen as a result of the displacements required by the proposed action.

Characteristics of Displacees - The project area falls within two County Census Division established for the 1990 Census. Residents potentially displaced by the proposed action are located in the Badrock-Columbia Heights Census Division. Data from the 1990 Census identified specific characteristics of this affected population and showed that:

- Minorities account for about 1.3% of the population.
- About 8% of the residents were over the age of 65.
- The median household income was \$25,309.
- Some 11.3% of the families had incomes below the poverty level.
- 13.7% of the population (age 16 to 64) had a work disability.
- 1% of the residents (age 16 to 64) had a mobility limitation and 5.6% of the residents 65 years or older had a mobility limitation.
- The average household size was 2.9 persons.

Availability of Replacement Housing - In the absence of current data on housing occupancy, local realtors were interviewed to determine this characteristic. According to one local realtor, the vacancy rate for housing (approximately 5% in 1984) declined substantially by mid-1988. The vacancy rate for the most desirable rental units, two and three bedroom homes, was estimated to be near zero. A realtor for Columbia Falls firm stated that his agency has been turning away more than ten people per week looking for homes to rent (43). **The 1990 Census indicated that the homeowner vacancy rates for the Badrock-Columbia Heights Division and the South Fork Division were 1.6% and 0.9%, respectively. Likewise, the rental vacancy rates for these Divisions were 13.5% and 22.9%, respectively, at the time of the last Census.**

Since the Census, the population of Flathead County has continued to grow and the demand for housing and rentals is high. The demand for housing has driven up the market values for housing and the costs of rental housing. Information available from the Flathead Board of Realtors, Flathead Multiple Listing Service showed that more than 950 housing units were available within the county at the end of 1993. However, only about one-third of all the available housing units were listed at prices under \$100,000 (42). The market value for the homes potentially displaced by the proposed

action would be expected to be in this value range. Based on an examination of published real estate guides, there appears to be adequate opportunities for replacement housing for homeowners in the Columbia Falls area. Rental properties in the immediate vicinity of the project may be more difficult to locate.

Hotel, motel, camping space, and rental units for temporary housing are available in the Columbia Falls, Columbia Heights, and Hungry Horse areas.

Relocation Assistance - A Relocation Plan and actual appraisals of affected properties will be prepared if a final design for the proposed action is authorized. Construction will not begin before adequate housing has been provided for all displaced persons. Residents displaced by this project may be eligible for replacement housing payments. Displacees are not required to relocate to similar housing, but have other options depending upon their ownership status and length of occupancy at the time of acquisition. **A comparable replacement dwelling will be made available and displaced persons will be relocated to their original ownership status if requested. In the remote case that housing is not available at the time of relocation, "housing of last resort" will be found.**

The Relocation Assistance Program requires a 90-day notice to residents and landowners displaced by the proposed action. Supplemental housing payments, interest differential payments, moving expenses, replacement housing advisory assistance, and incidental expense payments will be available to each displacee. These payments are in addition to the compensation paid for new right-of-way. Rent supplement payments and advisory services are also available to qualified tenants displaced by the project.

If the displacee feels that the offered relocation assistance is inadequate, an appeal may be filed with the Director. **If an agreement with the landowner about the adequacy of compensation can not be reached,** a condemnation proceeding will be initiated to determine the adequacy of compensation. The acquisition and relocation program for the proposed action will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation assistance and other resources are available to all residential and business displacees without discrimination.

Relocation assistance **was discussed** and informational pamphlets about the program **were provided** at the public **scoping** meetings held during the preparation of the EIS. **Materials describing the relocation assistance available to displacees were made available during the combined design location hearing for the proposed reconstruction project.**

3. SOCIAL IMPACTS

Direct Impacts - The proposed action **would** have little impact on the population and social nature of the project area since only 10 to 20 people would be directly affected and the minority and/or disadvantaged population is extremely small. The proposed action **would** not cause direct changes to neighborhoods or community cohesion for project area residents. No social, handicapped, minority, or ethnic groups **would** be disproportionately benefitted or harmed by the proposed action.

The build alternatives would provide direct traffic safety benefits for users of US 2 between Columbia Heights and Hungry Horse. Each build alternative would improve the horizontal and vertical alignments of the highway and minimize or eliminate existing sight distance limitations. Several design features of the build alternatives, like limited access control and a median/left turn lane, would help eliminate traffic conflicts and relieve congestion. Wide paved shoulders would provide safer facilities for pedestrians or bicyclists on the highway.

The four-lane alternatives would provide additional safety benefits over the two-lane designs because

passing against traffic would not be required. The four-lane designs would also operate with less congestion and delay than the two-lane roads under consideration. The continuous median/left turn lane proposed with Alternative 1 would minimize potential conflicts between through and left turning traffic on US 2. All build alternatives would be substantially safer than the existing highway.

The public's use of two dispersed recreation areas, the Flathead Recreational Waterway and the Middle Fork Recreational River, would be directly enhanced by the provision of a new river access west of Badrock Canyon. This proposal and the impacts to Berne Memorial Park are discussed in the Section 4(f) Evaluation.

Indirect Impacts - The greatest indirect impact of the proposed action would be the potential for inducing growth due to the improved access and facilities provided by the project. Assuming that commercial access is improved and enhanced, strip commercial development associated with tourism could increase causing more people to move to the area. The proposed action has the potential to accelerate and concentrate growth in the project area, most notably in Hungry Horse. Currently, the conditions of US 2 deter many from commuting to and from Hungry Horse. Improving the road may attract more residents to the community if the commute is perceived to be safer.

Property values along the US 2 corridor may be indirectly affected by the proposed action. Several studies supplied by the FHWA were reviewed in an attempt to predict the change in property values resulting from the highway improvements. These analyses generally concluded that trying to predict changes in property values is extremely difficult and that no reliable prediction model for such impacts exists. However, some basic assumptions about property value impacts can be made for highway improvement projects. They are: 1) the greatest impact to property values in the area from locating a roadway has already occurred; 2) the improvements are both a result and a cause of development; and 3) as traffic increases along the road, commercial property values are likely to benefit and residential values to decline slightly.

The new highway would be more "urban" in Columbia Heights and may be more difficult for residents to cross than the existing road. This may tend to inhibit interaction between residents and/or access to uses located on opposite sides of US 2 in Columbia Heights.

The build alternatives would indirectly benefit School District 6 by improving the route used to transport students to local schools. Similarly, highway improvements may benefit the providers of police and fire protection in the project corridor by slightly reducing response times from Columbia Falls to emergencies along US 2.

Cumulative Impacts - The cumulative effects of secondary development in the **US 2 and US Highway 93 corridors in Flathead County** could create a demand for new public services or facilities.

4. ECONOMIC IMPACTS

Direct Impacts - The build alternatives would displace one home/business and require the removal of **buildings at the Old Time Photo Company**. Completion of the project would also remove portions of the parking lot areas serving several businesses located along US 2 in **Columbia Heights**. Property owners **would** be compensated for business and land losses and some may be afforded the opportunity to relocate businesses and parking to nearby vacant lands.

During the tourist season, traffic speeds and congestion inhibit left turns into businesses located along US 2 **(44)**. This congestion problem will become more severe in the future as traffic flows increase. The build alternatives **would** provide left turn lanes, curbing, and access control in Columbia Heights and make access to existing and future businesses located along US 2 easier and safer. Direct contributions to business growth and retail sales in the corridor **would** result from these improvements.

Indirect Impacts - By improving the safety, ease of access and the aesthetics of shopping areas along US 2, the proposed project would cause minor growth in the overall economy of Flathead County. Highway improvements would help attract additional customers to Flathead County businesses and contribute to growth in employment and income for county residents **(44)**.

Reconstruction of US 2 would improve the safety and reduce the time required to travel between Columbia Heights, Hungry Horse, Glacier **National** Park, and other Flathead County population centers. These improvements may increase the willingness of area residents and tourists to commute to the cities for jobs, shopping, entertainment and other purposes. Businesses in the county's population centers would indirectly benefit from this increase in commerce.

The proposed action would produce a variety of positive and negative effects on the local economy of the project area. These indirect impacts are discussed below.

New Business Investment - Highway improvements would help to make the project corridor more attractive for new businesses. Flathead Valley tourist accommodations are already at capacity during summer months and the US 2 corridor between Kalispell and Glacier **National** Park is an attractive location for a major new motel **(44)**. A new motel would benefit other businesses in the Columbia Heights-Hungry Horse area by increasing the numbers of overnight residents.

Disruption of Employment - Employees of any businesses displaced by the proposed action would sustain a period of unemployment while businesses are being relocated. A Relocation Plan that discusses the characteristics of each affected business and its part-time, full-time, or seasonal employees **will be prepared. The Relocation Assistance Program** will mitigate impacts on these employees.

Property Tax Effects - Highway reconstruction would remove small amounts of residential, commercial, and agricultural property from local tax bases. Reductions in taxable property would have minor short-term impacts on the overall tax bases of Flathead County and the Columbia Falls School districts. In the long-term, tax revenue losses would be offset by the property taxes to be paid by new development that could occur on lands adjacent to the highway project.

Miscellaneous Local Impacts - Flathead National Forest lands between Badrock Canyon and Hungry Horse contain quantities of marketable timber. Since new right-of-way must be acquired and cleared to construct the highway and a new bridge over the South Fork, this timber could be cut and sold. Revenues for the Flathead National Forest could be produced by this activity. The ownership of the land would be transferred for right-of-way upon completion of the timber cutting **(45)**.

5. HISTORICAL AND ARCHAEOLOGICAL PRESERVATION

Direct Impacts - The cultural resources survey initially conducted for this proposed action identified 24FH419, the remains of the Freida Wilkes Herrig homesite, and 24FH420, a 1908 rock carving in the cliff in Badrock Canyon, as possible historic sites. Neither site was found to be on or eligible for the National Register of Historic Places. Therefore, **it was** determined that the proposed action will have no effect on properties on or eligible for the National Register. **Concurrence** from the SHPO that the proposed action will not affect historic properties **was requested** in correspondence (August 10, 1990) contained in Part VI of the EIS. SHPO's stamp of concurrence, dated August 20, 1990, is shown on page 2 of **the** letter. SHPO's concurrence requires no further action regarding these properties and assures compliance with Section 106 of the National Historic Preservation Act.

The development of replacement parkland and a river access for a site near the House of Mystery **has**

been proposed as mitigation for impacts to Berne Memorial Park. This proposal would require the acquisition of private lands adjacent to the highway for parkland and as additional right-of-way for the realignment of Berne Road. These private lands were not included in the initial cultural resources survey for the project area since they are located outside the proposed right-of-way corridor for the new highway. A supplemental cultural resources survey **was conducted** on lands adjacent to the House of Mystery and Berne Road in October, 1991.

The supplemental survey identified a historic property (24FH455), the remains of an early logging operation, in the wooded area adjacent to the Flathead River near the House of Mystery. This property was not recommended for inclusion in the National Register since testing at the site did not locate artifacts or identify the function of the area. Two other prehistoric cultural properties, identified as 24FH453 and 24FH454, were located during the survey but not recommended for inclusion in the National Register because of the presence of limited cultural materials or the degree of surface disturbance and modification. Testing was required at 24FH454 to provide an adequate assessment of the site's potential significance. SHPO concurred with this determination in agency correspondence dated October 25, 1991 contained in Part VI of the EIS.

A cultural resource survey of the remains of an historic road in Badrock Canyon, locally known as the "tote" road, was completed in May, 1994. The survey established the location of the remaining segment of the "tote" road, mapped important features, and documented the history and use of the of the property. Based on the survey, the Badrock Canyon "Tote" Road (24FH583) was found eligible for inclusion in the National Register. The proposed excavation of the outcrop at the west end of Badrock Canyon required by the build alternatives would eliminate up to 270 feet of the 2,100 foot-long segment of the "tote" road identified in the cultural resources survey. Construction of US 2 would also obliterate portions of a more modern dirt road and trail segment which accesses the west end of the old road. The impacted section of the historic road does not contain prominent features related to the construction and use of the road. In fact, the original route of the road is difficult to distinguish due to previous road construction and the movement of talus materials at the base of the west outcrop of the Canyon. The proposed action would not affect portions of the "tote" road located above the roadside turnout at Berne Memorial Park. Part V provides a detailed discussion of the impacts of the proposed action on this property.

The historical significance of the **bridge over the South Fork of the Flathead River west of Hungry Horse** was also evaluated for this EIS. The bridge, originally constructed in 1938, was not previously evaluated for its potential eligibility on the National Register of Historic Places nor was it recommended for inclusion in the Montana Historic Preservation Plan for Roads and Bridges. Because of the large number of similar bridges that remain in service on the state highway system and the widespread use of the structure's design, the South Fork Bridge has no particular qualities that would recommend it for inclusion in the Historic Preservation Plan. APPENDIX 12 contains **an** evaluation of the historical significance of the South Fork Bridge at Hungry Horse. SHPO concurred with **this** evaluation in agency correspondence dated December 17, 1991.

Montana's environmental statutes require that the effects of the proposed action on historic/archaeological sites be described in the EIS, regardless of their eligibility for the National Register. Consequently, the impacts to 24FH419, 24FH420, 24FH453, 24FH454, and 24FH455 are discussed below.

The reconstruction of US 2 following the improved horizontal alignment of the build alternatives will cause direct impacts to both historical properties. The impacts are unavoidable and necessary to provide a safety alignment and minimize sight distance limitations on US 2. The highway's new location will pass directly through 24FH419. The 1934 construction of the existing highway took the original Herrig homesite, then owned by Billy Berne, and left only remnants of outbuildings and other features. Subsequent disturbances to this site have been caused by the installation of a gas pipeline and electrical transmission lines. New

construction will contribute to impacts on the remaining features of the site. These impacts are not major because the information that the site could potentially yield is more readily available from other historical records.

The build alternatives will directly impact 24FH420 by removing the rock face containing the carving which states "LEO 1908." The impact on 24FH420 is not substantial because the person responsible for the carving and its actual date of completion can not be identified.

The construction of vehicle parking areas, access roads, and a boat ramp at the proposed replacement parkland and river access near the House of Mystery would disturb the surface of 24FH453. These impacts would be minor due to the extremely disturbed nature of the site. The location of the site on a gravel river terrace generally precludes the recovery of intact buried deposits to any great depth. Minor tree removal may occur from 24FH455 to allow construction of the boat ramp and vehicle maneuvering areas at the proposed river access site.

The proposed realignment of Berne Road would require that the road be reconstructed directly through 24FH454. The impacts of such reconstruction on the property would not be major since the site is disturbed and test excavations identified an extremely limited assemblage of cultural materials.

The proposed action would require the demolition of the existing South Fork Bridge at Hungry Horse following the construction of a new four-lane bridge. The loss of the South Fork Bridge is **not** a major impact since many bridges of similar design still remain in service in Montana. The South Fork Bridge is not unique in its design features and is not singularly important to understanding the history of bridge construction in Montana.

Indirect Impacts - The impacts of the proposed action on the identified cultural properties **would** not induce any other impacts.

Cumulative Impacts - No cumulative impacts are foreseen as a result of the project's effects on these cultural properties.

Mitigation - The Programmatic Agreement regarding historic roads and bridges in Montana requires that technical documentation of the history of roads and road construction and bridge building in the state be prepared. The Programmatic Agreement regarding historic roads and bridges also requires that a plan for preserving significant and representative road segments and bridge types be developed. A copy of the Programmatic Agreement regarding historic roads and bridges is included in APPENDIX 12.

In accordance with the Programmatic Agreement, histories of roads and bridges in Montana were recently published and made available in late 1993. The documents are titled *Roads to Romance: The Origins and Development of the Road and Trail System in Montana* by Marilyn Weiss, Archaeologist and *Monuments Above the Water: Montana's Historic Highway Bridges, 1860-1956* by Jon Axline, Environmental & Hazardous Waste Bureau. These documents have been distributed to agencies and individuals interested in the interpretation, preservation, and management of historic roads and bridges. These documents will also help involved agencies develop an Historic Preservation Plan for significant road segments and bridge types.

6. CONSIDERATIONS RELATING TO PEDESTRIANS AND BICYCLISTS

Proposed Pedestrian Facilities - All build alternatives include the provision of sidewalks at appropriate locations in Columbia Heights. Pedestrian crossing and necessary lighting or signalization provisions would be identified during the design of the proposed action. A detailed engineering study **must be conducted**

to evaluate the need for signalization and pedestrian crossing facilities. **The proposed action would also provide sidewalks between the new South Fork Bridge and the existing pedestrian facilities in Hungry Horse.**

Proposed Bicyclist Facilities - Scoping comments requested that a separated path for bicycles, pedestrians, and other modes be considered with the proposed action. Although this design feature would enhance the project, its justification is difficult. Current use and accident records do not suggest the need for a separate facility. High seasonal traffic volumes, travel speeds, and existing road conditions undoubtedly inhibit the use of US 2 by recreational bicyclists.

AASHTO's *Guide for Development of New Bicycle Facilities* (1981) indicates, that as a minimum, two-directional bicycle paths should have paved surfaces at least 8-feet wide with 2-foot wide graded areas on each side of the paved surface (45). AASHTO also indicates that a wide separation between the bicycle path and the edge of the adjacent highway is desirable and that physical barrier be used when the separation is less than 5 feet (45).

These guidelines indicate that a separate bicycle path constructed adjacent to the new highway would require at least 17 feet of additional construction area. This distance could be reduced slightly if a physical barrier between the path and highway were used. Previous discussions in this Part have indicated that the use of barriers may adversely affect wildlife movements in the corridor. Increasing the width of the area disturbed by construction to accommodate a bicycle path, particularly through the Berne Memorial Park area, would require additional excavation or river encroachment and may unduly increase the expense or environmental impact of the proposed action.

The incorporation of a separate path for bicyclists, pedestrians, and others through the project corridor poses several additional problems. Unless one-way paths are constructed on each side of the new highway, some users would be required to cross the highway at each end of the project. This creates the potential for conflicts with vehicles and may confuse users of the path. Bicycle tourists may be hesitant to use the path preferring instead to use the continuous shoulder of the highway.

For the reasons presented above, no separate bicycle facilities are proposed with any of the build alternatives. Bicycle traffic would be required to use the shoulder of the new highway. AASHTO guidelines state that shoulders used by bicyclists should be smooth, paved surfaces with minimum widths of 4 feet (45). All build alternatives would provide a paved shoulder that is 8 or 10 feet wide. The provision of wide shoulders is consistent with AASHTO's guidelines for roads which require bicycles and vehicles to share facilities.

Direct Impacts - The build alternatives would enhance pedestrian safety in Columbia Heights **and at the west edge of Hungry Horse** by providing sidewalks where no such facilities previously existed. The designs of the build alternatives offer safety benefits for bicyclists on US 2 by increasing the width of the usable shoulder area for riders.

Indirect Impacts - The increased width of US 2 in Columbia Heights and travel speeds may make the highway more difficult for pedestrians to cross. If traffic continues to grow on this route as expected and additional commercial development occurs in Columbia Heights, pedestrian crossings of the highway may become increasingly harder without special crossing facilities.

A safer facility for bicyclists may stimulate additional use by local recreational riders and commuters. No substantial increase in the numbers of long-distance bicycle tourists are expected as a result of this project.

Cumulative Impacts - No cumulative impacts on pedestrian or bicyclist use are anticipated.

7. JOINT DEVELOPMENT

The joint development measures included with this project are proposed as mitigation for the loss of facilities and recreational opportunities at Berne Memorial Park, a Section 4(f) property. As mitigation for these losses, **the following actions are proposed:**

- develop a new river access **with the USFS** to provide replacement parkland near the House of Mystery west of Badrock Canyon, and
- pursue the acquisition of private landholdings adjacent to US 2 in Badrock Canyon.

These measures are described in detail in the Section 4(f) Evaluation **contained in Part V of this document**. Both measures would enhance the quality of and opportunities for public recreation in the area. The impacts of the joint development measures associated with the project are discussed below.

Direct Impacts - The development of recreational facilities near the House of Mystery would directly alter travel patterns in the corridor. The river access site has the potential to become a major seasonal generator of traffic on US 2 because the facility would provide the public with relatively unrestricted access to the Flathead River where only limited access existed before. The USFS expects the new river access site to receive substantial use because it is a logical location for floaters on the Middle Fork Recreational River segment to leave the river and is easily accessed from US 2 (47). A **high-design** intersection at US 2 and Berne Road would be provided to ensure that conflicts between through and turning traffic are minimized at the new recreation site.

Indirect Impacts - The proposed acquisition of private lands and their transfer to the USFS would consolidate Flathead National Forest landholdings in the area. Public ownership of these lands would prohibit the development of incompatible land uses and provide a means of protecting visual resources in Badrock Canyon.

The new river access would indirectly benefit public safety by moving recreational uses away from US 2. Currently, river users occasionally park at Berne Memorial Park and cross the highway to access or leave the river. The proposed action would eliminate this condition by prohibiting long-term parking along US 2 and eliminating the need to cross the highway to access to the river.

Cumulative Impacts - The potential exists for commercial river outfitters based in the West Glacier area to use new access site as a take-out point for float trips through the Middle Fork Recreational River segment. The new access presents a logical place for these users **and others** to end float trips because the terrain of the Flathead River becomes less scenic downstream from Badrock Canyon. The proximity to US 2 would allow for easy shuttles of passengers and equipment back to West Glacier.

8. RECREATION IMPACTS

Direct Impacts - The new right-of-way necessary for the build alternatives **would** require the acquisition of minor amounts of property at **Grizzly Go-Carts and Batting Cages**, a privately-owned recreation site located east of Columbia Heights. The go-cart track at the facility may require slight modifications to accommodate highway construction through this area. **The impacts on this recreation site caused by construction of the selected build alternative, would be fully investigated during the preparation of right-of-way drawings and the development of a Relocation Plan.**

The proposed action would directly affect lands adjacent to the Flathead Recreational Waterway by removing some riparian vegetation and placing fill in the river in Badrock Canyon. These impacts were discussed at length in previous sections of Part IV. These actions would not adversely affect the

recreational use of the Flathead River system.

The proposed action would not directly affect any opportunities for dispersed recreation in the project area.

Indirect Impacts - The proposed action would indirectly benefit recreation use of the Flathead Recreational Waterway and the Middle Fork Recreational River segment by developing a new river access in the corridor. The effects of this action were described in the immediately preceding section of this Part. The proposed action would indirectly affect public and private recreation sites by improving the safety of the route used to access to these areas.

The proposed development of a new river access site on the Flathead River will be considered in the Flathead Multi-Objective River Corridor Plan currently being developed by several local and state agencies and non-profit groups with the assistance of the NPS. The Plan is being funded through the federal Rivers, Trails and Conservation Assistance program. The proposed action has been discussed with the NPS representatives assisting in the development of the river corridor plan.

Cumulative Impacts - As stated previously, the development of a new river access could stimulate use of the Flathead River by commercial outfitters. Expansion of the initial facilities or parking at the river access could be required if river use exceeds the expectations of the USFS.

9. VISUAL IMPACTS

Direct Impacts - All build alternatives would provide a wider pavement area and cleared right-of-way corridor for US 2, increasing the visual scale of the roadway in the Columbia Heights and Badrock Canyon landscape units. The four-lane designs of Alternatives 1 and 2 are generally 20 feet wider than the two-lane designs considered through much of the corridor and would increase the scale of the road more than Alternatives 3 and 4. The build alternatives would have a **minor** adverse effect on the quality of views from the road in the Columbia Heights landscape unit since the proposed alignment closely follows the existing highway. The installation of curbs and gutters and control of approaches would help unify the appearance of the Columbia Heights community.

All build alternatives would require rock excavation, remove varying amounts of riparian vegetation, and **shift the roadway toward** the Flathead River near Berne Memorial Park to improve **its** horizontal alignment. These actions would adversely affect the quality of views from the road in the Badrock Canyon landscape unit by decreasing the visual continuity of **both** treelines and landforms adjacent to the road. The differences between the visual effects produced by the build alternatives would be minor since each affects the features of Badrock Canyon similarly.

The most evident change in the appearance of the project area would occur at the extreme west end of Berne Memorial Park where an outcrop must be excavated to improve the alignment of US 2. It is notable that this outcrop was excavated during a previous road construction project. The proposed excavation associated with the four-lane alternatives would extend for some 650 feet and produce rock cuts varying in height from 40 to 150 feet. Rock excavation for the two-lane alternatives would produce a new rock face about 600 feet long with cuts ranging in height from 33 to 140 feet. Exposed cliff faces at this location presently range from 25 to 60 feet in height. Vegetation on the affected outcrop would be removed during excavation.

Geologists and engineers recently completed preliminary studies of the existing geologic conditions and the proposed construction through the west outcrop of Badrock Canyon. As a result of their work, it was recommended that vertical cut slopes be constructed in some areas of the new rock cut. The overall height of some new rock cuts and the amount of rock that must be excavated can

be reduced by incorporating vertical cuts into the design of roadside slopes.

PHOTO PLATE 6 shows the outcrop at the west end of Berne Memorial Park as it presently exists and as it would appear following excavation. Photo rendering techniques were used to illustrate the probable appearance of the outcrop area after construction.

The build alternatives would also remove varying amounts of riparian vegetation opposite Berne Memorial Park to accommodate a shift in the road's alignment. The extent of vegetation removal required for the build alternatives was previously described at length in Part II of the Final EIS. The amount of vegetation that would be removed to accommodate the new road does not vary substantially for the build alternatives.

PHOTO PLATE 7 illustrates the present appearance of US 2 and riparian vegetation in the vicinity of Berne Memorial Park. The photo plate also shows the likely appearance of this area following construction of the new roadway. As indicated by the photograph, the removal of riparian vegetation in this area would increase views of the Flathead River and distant mountains for east-bound highway users.

The build alternatives would produce only minor changes in the visual environment for users of the Middle Fork Recreational River segment of the Flathead Wild and Scenic River System. US 2 is generally not visible from the Recreational River due to screening by trees along the river and the road's position above the river. The build alternatives would clear some trees west of Hungry Horse but leave much of the tree screen in place. The new bridge over the South Fork at Hungry Horse would be slightly closer to and more visible from the Recreational River than the existing structure. These impacts would not substantially affect the important values associated with the Middle Fork Recreational River segment.

Indirect Impacts - The quality of views from the road and of the road would be decreased to the extent that traffic congestion and development along the highway increases.

Cumulative Impacts - Tourist perceptions of the area may be adversely affected if the route to Glacier National Park becomes a commercial strip.

Mitigation - The proposed alignment attempts to minimize impacts to the river and its environment and the amount of rock excavation in Badrock Canyon while balancing the need for alignment and capacity improvements. **The following measures will be implemented** to mitigate the potential adverse visual effects of the proposed action.

- Implementing limited access control to help minimize the number of approaches along US 2 and improve the appearance of the corridor.
- Pursuing the acquisition of private lands to control incompatible development and maintain the natural appearance of Badrock Canyon.
- Contacting the **NPS** and the USFS for recommendations of scenic enhancement measures that can be incorporated in the design of the new facility.
- Varying the tree line during right-of-way clearing to avoid creating a "tunnel effect" and to add interest where the road passes through dense timber.
- Establishing strict construction limits and employing selective tree cutting in areas adjacent to the Flathead River to preserve visual qualities and habitat for bald eagles and other wildlife.

Photo Plate 6 - Western Outcrop Before/After Excavation



Photo 1 - View of western outcrop in Berne Memorial Park where rock excavation is proposed to accommodate an improved alignment for US 2.



Photo 2 - Simulated view of the western outcrop following reconstruction of US 2 in Badrock Canyon.

Photo Plate 7 - Berne Memorial Park Area Before/After Highway Reconstruction



Photo 1 - View looking east from the roadside turnout at Berne Memorial Park in Badrock Canyon.



Photo 2 - Simulated view of the same area following reconstruction of US 2. Note that the extent of riparian vegetation between the road and the river would be reduced. Highway construction would not require excavation of the eastern outcrop at the park.

- Requiring prompt revegetation of areas disturbed by construction.
- Incorporating moderate cut slopes into the design, whenever possible, to enhance revegetation efforts.

Visual protection for the corridor is also possible through the following measures:

- **incorporating** scenic enhancement of the right-of-way;
- **acquiring** increased right-of-way limits;
- **controlling land uses**;
- **controlling outdoor advertising signs**; and
- **placing utilities underground**.

These controlling measures can be implemented to varying degrees along highway corridors. Generally speaking, only activities or actions within the highway right-of-way can be readily controlled by MDT. Other government entities (Flathead County and the USFS) are responsible for controlling activities on adjacent lands. These measures are discussed below.

Scenic Enhancement of the Right-of-Way - 23 U.S.C. 319 authorizes the acquisition of interests in and improvement of strips of land or water areas adjacent to Federal-aid highways necessary for the restoration, preservation, and enhancement of scenic beauty. **Scenic easements**, a legal right to use or control the property of another for scenic enhancement purposes, may be obtained for conservation purposes and development of roadside views and natural features. Scenic enhancement areas present ways to preserve existing vegetative screens, or restrict development adjacent to the highway.

Property can not be condemned by the State for scenic enhancement purposes. Therefore, a voluntary agreement **with** adjacent landowners is the only means of acquiring a scenic easement for the corridor. The success of implementing scenic easement program for the corridor depends primarily on the cooperation of landowners along the highway and the agency's ability to negotiate for such easements.

The acquisition of scenic easements, as proposed in the EIS for the reconstruction of US 2 between Hungry Horse **and** West Glacier, proved to be difficult. **Only 11 of the 39 scenic easements originally proposed in the final right-of-way plans for the reconstruction project were acquired.** The total area acquired for scenic easements was 18 acres.

The proposed acquisition of private lands in Badrock Canyon would serve the same objectives as obtaining scenic easements through this sensitive portion of the corridor. This action would preserve many of the natural features and roadside views in the Canyon and restrict development adjacent to the highway. The ownership and responsibility for managing the property's visual resources **would eventually be transferred** to the USFS. As a condition of **such a transfer, provisions would be included to ensure** these lands **are** protected from timber cutting and **incompatible** roadside development. The acquisition of scenic easements on private lands in Badrock Canyon could be pursued if efforts to obtain the properties **are** unsuccessful.

Acquisition of Increased Right-of-Way Limits - Acquisition of a wider right-of-way corridor in scenic locations may be a way to protect the visual resources of the project area. This option would

essentially be implemented by **the** proposal to acquire private lands in Badrock Canyon.

Land Use Controls - Land use controls can provide limited visual protection for the corridor by prohibiting certain land uses from locating along the highway. There are no land use controls, like zoning, for private properties adjacent to US 2. Flathead County has the sole authority to adopt and implement land use regulations.

Outdoor Advertising Control - Limited visual protection for the project corridor is possible through the enforcement of outdoor advertising controls. The Montana Outdoor Advertising Act (MCA 75-15-101 through 75-15-134) and the Administrative Rules of Montana (ARM 18.6.203 through 18.6.272) contain statutes regulating the size, placement, and lighting of advertising signs along Interstate and Primary highways. The District Office in Missoula has the review and permitting authority for new signing along US 2 in Flathead County.

Outdoor advertising regulations allow the agency to generally control the placement of signs along Primary roads only within 660 feet of the right-of-way and along both sides of the highway for 600 feet immediately adjacent to ongoing commercial or industrial activities. In unzoned, rural areas like the project corridor, certain signs **can not be** erected beyond 660 feet if they are intended to advertise and are visible from the highway. Within the project corridor, signs along US 2 can not be spaced closer than 300 feet nor can they be placed within 500 feet of a park or national forest boundary.

Little control **exists** over signs advertising activities conducted on the property upon which they are actually located, such as motel signs, service station signs or store signs. These "**on-premises**" signs do not require **state signing** permits but could be subject to local ordinances or regulations if Flathead County wished to impose such measures. **In late 1993, the Flathead County Commissioners implemented a measure which prohibits large off-site and/or billboard/painted bulletin signs in portions of the County not covered by a zoning ordinance. Flathead County's new sign ordinance does not control signs smaller than 32 square feet or signs erected by government agencies.**

Signs erected prior to the time that outdoor advertising laws went into effect are not subject to **highway** signing standards. However, if one of the signs has been removed or taken down, the replacement must conform to the requirements and a permit must be obtained. **The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) set aside monies for transportation enhancements including funds to control and remove nonconforming outdoor advertising signs.**

Placement of Utilities Underground - Visual enhancement of the corridor may be realized by relocating aerial utilities underground whenever possible. **A recommendation** or request that such utilities be buried **can be made**, however, the **State** would assume the entire cost of the relocation. Typically, utility companies determine the best method for relocating their facilities within the highway right-of-way and participate in the cost of such activities. It is unlikely that **all** aerial utilities could be placed underground in this proposed action due to a combination of technical considerations, terrain limitations, and the associated high costs of relocating these facilities.

To the extent possible, these measures will be employed to mitigate the adverse visual effects of the proposed project.

Mitigation for Cliff Excavation in Badrock Canyon - The rock cut at the west end of Berne Memorial Park would be designed to produce a new cliff face that is visually compatible with other outcrops in the project area. "Rock sculpturing" techniques will be used to produce a rough textured cut

surface which will reflect the existing terrain and accent natural fracture lines in the rock. This can be accomplished by:

- ripping rock wherever possible to expose rock cut faces;
- using seams, fractures, and joints to blast the cut;
- using staggered drill holes for explosives to avoid shear cut rock faces and exposed presplitting holes;
- drilling presplit holes 6-8 inches in front of rock joints in the vertical cuts to avoid blast hole half casts and conform to natural rock structures;
- designing rockfall benches along existing bedding slopes and avoiding uniform horizontal benchlines;
- minimizing disturbances to areas outside of prescribed work limits;
- providing appropriate transition areas at the top of rock cuts; and
- ensuring that all rock excavation is done by qualified rock contractors.

In addition to the excavation guidelines presented above, other measures can be incorporated into the design and construction of the new rock cut to help obtain a visually compatible cut slope on the west outcrop in Badrock Canyon. These measures are described below:

- The completion of additional geotechnical investigations of the west outcrop to refine the rock slope design and better understand rock mechanics in the outcrop.
- The provision of on-site geotechnical supervision during excavation of the outcrop to monitor and determine where presplit holes should be drilled to make the best use of the existing strong controlling joints and bedding planes.
- The newly exposed rock faces can be stained with commercially available products to give them a weathered appearance. This would not be done if such products are likely to produce adverse effects on surface or groundwaters. The potential environmental effects of such products will be investigated before they are recommended for use.
- Random plantings of vegetation on the rock face could be introduced to help reduce the scale of the new rock cut. The feasibility of such plantings will be considered during the final design of the project. Several species of shrubs (like dogwoods, Wood's rose, currants, and ocean spray) may be appropriate vegetation for planting on the rock face.

Key to the success of such planting is the presence of water on the cliff face. The existence of a spring on this rock outcrop increases the chance for a successful introduction of new plantings on the rock face.

- The rock cut will be designed to maintain existing drainages and seeps over the rock face. Horizontal drain holes will be drilled into the face of the new cut to control water pressures. Drainage through these holes is likely to form a "weeping" rock

face which would freeze during winter months.

- The heads of rock bolts used to stabilize blocks and slabs in the outcrop would be colored to match the rock.

E. Other Considerations

1. CONSTRUCTION IMPACTS ON THE PHYSICAL ENVIRONMENT

Construction impacts differ from those associated with the operation of the completed roadway since they are typically short-term and localized. The resource categories discussed in Part IV have been reviewed from a road construction perspective to determine likely impacts.

Because road and bridge construction activities are relatively standardized, similar construction projects served as the basis for identifying construction activities and their potential impacts on the physical environment. The construction activities for this project will include bridge construction, utility relocations, and road construction.

Direct Impacts of Construction - The direct impacts of construction activities in the corridor are listed below. These impacts are unavoidable and would occur with the construction of any build alternative.

- Alteration and redistribution of surface and subsurface materials.
- Short-term increases in the level of particulates (dust) caused by the operation of construction equipment. **The effects on the Columbia Falls nonattainment area due to normal and construction-related traffic, construction activities on disturbed areas, and materials handling and processing were discussed previously in this Part of the EIS.**
- Short-term noise impacts from construction equipment.
- Existing vegetation will be removed from the work area.
- Birds and wildlife species may be temporarily displaced by construction activities.

The extent of these impacts would vary somewhat by the size of the area disturbed by construction activities. The wider build alternatives would disturb more area than narrower road designs and therefore have a greater potential for producing construction impacts.

Blasting to excavate rock at the west entrance to Badrock Canyon could produce noise and vibration effects. Noise impacts, in the form of an airblast, could occur as a result of the blasting in Badrock Canyon. Airblast is an atmospheric pressure wave transmitted from the blast outward into the surrounding area. This pressure wave consists of audible sound and sound which can not be heard. Airblast is generated by the explosive gases being vented to the atmosphere as the rock ruptures, by stemming blowout, by displacement of the rock face, by displacement around the blast hole, and by ground vibrations. These may occur in various combinations for any given blast. Generally, when noise occurs, blast energy has been wasted. Therefore, the design and execution of blasts strive to minimize noise and vibration effects.

Noise and vibration would not be expected to produce damage to structures in the vicinity of the proposed blasting area. The nearest structure, the House of Mystery, located about 3,500 feet from the area where blasting would occur. The potential for vibration impacts to springs in Badrock Canyon was discussed previously in this Part.

Blasting could also produce flyrock which are rock fragments thrown from the blast site by the force of the explosion. The majority of flyrock problems are due to carelessness in design, loading, and execution of blasts. Flyrock can generally be controlled during the drilling and loading of explosives. In some instances, mats may be used to confine such material to the blast area. Properly designed blasts would minimize the potential for flyrock to be produced from the excavation activities in Badrock Canyon.

Indirect Impacts of Construction - The indirect impacts of construction on the physical environment of the project area are as follows:

- Potential degradation of surface waters due to sedimentation from disturbed areas.
- Potential degradation of groundwater due to percolation of contaminated surface waters.
- Local fisheries may be adversely affected if surface runoff from disturbed areas transports sediments to the Flathead River system.
- Safety hazards associated with the transport, storage, and handling of explosives that would be used for the excavation in Badrock Canyon.

Cumulative Impacts - The construction impacts of the proposed action would not produce any cumulative effects on the physical environment.

Mitigation - Provisions contained in **the** *Standard Specifications for Road and Bridge Construction* and construction inspection will ensure that the impacts associated with highway and bridge construction are minimized. Pertinent mitigation required by **the** *Standard Specifications* include:

- Replacing stockpiled topsoil and revegetating all disturbed areas to prevent surface erosion and sedimentation of surface waters.
- Applying water or chemicals to abate road dust and establishing speed restrictions through work zones to minimize wind erosion and air quality impacts.
- Submitting a blasting plan to the Project Engineer prior to beginning such activities.
- Employing all **BMPs** for erosion control for this project including the submission of a program for effective control of water pollution for approval by the Project Engineer.
- Minimizing potential noise impacts during construction by notifying the public of scheduled activities, requiring that construction equipment is in good operating condition, and restricting work hours in areas where residents may be disturbed.

Implementing BMPs for erosion control specifically designed for the proposed action would minimize the potential for erosion of disturbed areas and for adverse impacts from sediments being introduced to surface waters.

The Contractor may be required to employ a Blasting Consultant to design blasting plans and to be available during excavation of the west outcrop of Badrock Canyon. Geologists who examined the geotechnical conditions of the outcrop also recommended that the Contractor use a "test section" at the beginning of the rock excavation work to refine blasting techniques and assure rock control. A program for rock blast monitoring including video recording of each blast was recommended for this project. Special provisions for rock containment must also be incorporated

into the design plans for the rock excavation work. Rock containment devices are recommended to keep blasted and excavated materials within the construction limits.

2. ECONOMIC EFFECTS OF CONSTRUCTION

Construction Schedule - The scheduling of construction activities **was** investigated to help identify when the economic effects of the proposed action may be realized. The construction schedule **was assumed to include** three construction seasons and winter shutdowns (between mid-November and mid-April). **The Draft EIS indicated that the proposed action could be ready for construction during 1995. Since the Draft EIS was published, funding for this highway project, as well as others in the State, has become less certain. The construction date for the proposed action is now estimated to be after the Year 2000.** The availability of funding will ultimately determine when the project or portions of the project are constructed.

The major work tasks associated with the project could be scheduled as follows:

Construction of the new South Fork Bridge - Construction on the bridge could begin in **the first construction season** and be completed in about 12 full months. The old bridge would be removed **at the end of the second construction season.**

Utility Relocation - Utility relocation would be expected to occur in **the first construction season** and be completed prior to road construction in **the second year of the project.** Utility work would take approximately 6 months to complete.

Highway Reconstruction - Some start-up and mobilization for highway reconstruction could occur **during the first construction season.** However, actual road reconstruction could begin in the of spring of **second construction season** and would require 12 full months to complete. Cleanup activities would occur in the **final construction season.**

Direct Impacts - The reconstruction of US 2 would directly create jobs and income for construction workers. The work force needed to construct the proposed action would include carpenters, equipment operators, steel workers, cement finishers, truck drivers, welders, laborers, engineers and other supervisory personnel. **TABLE IV-7** shows typical work force requirements for the proposed action.

TABLE IV-7 WORK FORCE REQUIREMENTS				
Task	Time Period	Minimum Work Force	Peak Work Force	Average Work Force
Bridge Construction	12 months	10	20	15
Utility Relocation	6 months	10	10	10
Road Construction	12 months	10	45	30

Several local contractors in the Flathead County **area** are capable of completing the road-building portion of the project **(48)**. Bridge construction would most likely be let to a firm from outside Flathead County. Skilled and semi-skilled construction workers are available in the local labor force and would be expected to perform much of the construction work required for the project **(49,50)**. **During the construction period, the project would produce only minor increases in employment in Flathead County.** Project construction would not substantially affect the county's unemployment rate.

The direct income effects of project construction would be similar for each of the alternatives. **Based on current income information**, construction worker wage and salary earnings for the build alternatives would range from \$1.8 to \$1.9 million. Contractors must comply with Equal Employment Opportunity (EEO) hiring requirements and are encouraged to use disadvantaged business enterprise (DBE) firms for performing construction activities whenever possible.

Indirect Impacts - Major materials and supplies necessary for highway and bridge construction include concrete, reinforcing steel, gravel, bituminous material, fuel, fabricated metal products, signs and paint. Depending on the build alternative constructed, material and costs are estimated to range from \$3.6 million to \$3.9 million. Much of the necessary construction materials (such as concrete, fuel, fill and base course materials) could be purchased in Flathead County.

Assuming 50 percent of these materials are purchased locally, the proposed construction would generate an estimated \$450,000 to \$480,000 in additional earnings for local material suppliers and their employees. Some businesses could expand their work forces to accommodate the increased sales or production of construction materials. Contractor purchases would be sufficient to create 5 to 10 temporary jobs in material supplier and contractor services businesses.

The secondary economic effects from the local expenditures of construction workers and material suppliers would also create jobs and income for Flathead area residents. The circulation of construction worker and material suppliers expenditures within the local economy would create additional income for Flathead area residents. Secondary income effects for the build alternatives are estimated to range from \$1.1 to \$1.2 million. These income effects would be distributed throughout the time of construction activities. The secondary income effects of the project would be sufficient to support 20 to 30 full-time and part-time jobs in local businesses and government **at the time of construction**.

Some businesses located near construction sites would benefit from expenditures made by construction workers. Food and beverage, fuel, and camper facility operators would most notably benefit from this trade. Temporary housing for construction workers is available at campgrounds and motels in Columbia Falls, Columbia Heights, and Hungry Horse.

The total income effects of building the proposed action would vary little between the build alternatives. The economic effects of construction a new bridge and highway are estimated to generate from \$3.3 million to \$3.6 million in total earnings for people living and working in Flathead County. This assumes that even if a non-local contractor was awarded the work, 60 percent of the workforce would be Flathead County residents (49).

Even though the Contractor must provide temporary access routes to businesses located along US 2, construction could make access more difficult and affect the willingness of potential customers to shop at businesses in construction zones. This impact would be most adverse if construction activities interfered with seasonal tourist trade (43).

Cumulative Impacts - The economic impacts of construction activities will not substantially contribute to other cumulative effects on the region.

3. TRAFFIC SAFETY DURING CONSTRUCTION

Direct Impacts - During the construction of the proposed action, short delays and temporary detours would be necessary but long-term disruption of traffic flows or alternate routing around the area would not be required.

The proposed construction between Columbia Heights and the House of Mystery generally follows the

existing alignment. Therefore, traffic must be routed to one side of the highway or right-of-way while work occurs on the other side. Rock excavation in Badrock Canyon would produce delays during and immediately after blasting while debris **blocking the road or posing danger to traffic** is cleared from road surfaces. Constructing the proposed bridge over the South Fork at a new location would enable the existing structure to remain in use during construction. **Traffic control would be used for all activities taking place within 30 feet of the road where travel is permitted.**

Indirect Impacts - The most notable indirect impact of the proposed action would be the inconvenience to motorists caused by construction delays. Motorists would be required to adjust their travel schedules to consider the length of possible delays. Some facility users may choose alternate travel routes to avoid construction sites.

Cumulative Impacts - No cumulative impacts are foreseen.

Mitigation - **The Contractor for the proposed action will be required** to schedule construction operations and provide traffic control in a manner that will assure:

- Adequate safety and convenience to motorists and pedestrians, and the safety of construction workers at all times.
- The progress of the project is advanced in a manner most beneficial to the public.
- Traffic control for all construction activities within 30 feet of the existing road.
- Traffic control conforms with all project specifications and plans and the *Manual on Uniform Traffic Control Devices* (MUTCD).
- Construction signing is removed or covered when the facility is returned to normal use.
- Work zone signing conforms with that shown on construction plans.

4. PERMITS FOR CONSTRUCTION

Based on coordination with regulatory agencies and the potential impacts identified for this proposed action, **eight** water-related permits or authorizations and **four other permits or licenses must be obtained** prior to construction. Permit requirements and other necessary authorizations for the proposed action are described in Part VI.

5. ENERGY

Direct Impacts - Direct energy impacts refer to the energy consumed by vehicles using the facility. If constructed, the operational energy consumed by the build alternatives would be less than those of the no-action alternative. All build alternatives would handle traffic with less congestion and delays and allow travel at slightly higher speeds than the existing highway. There are no substantial differences between the build alternatives in direct energy consumption.

Indirect Impacts - Indirect impacts include the energy expended during the construction and maintenance of the facility and from any changes in vehicle usage resulting from the proposed action. Due to the increased width of the road surfaces and wider construction zones, the four-lane alternatives would consume slightly more construction and maintenance energy than the two-lane road designs.

No **major** changes in vehicle usage is expected as a result of the proposed action. **However, the**

provision of a park-and-ride facility for commuters in Columbia Heights could reduce the number of vehicle trips on US 2 each day and result in slight decreases in fuel consumption by vehicles.

Cumulative Impacts - The proposed action has little if any potential for producing cumulative energy impacts.

6. HAZARDOUS WASTE SITE IMPACTS

Direct Impacts - Two gas stations/convenience stores are currently located adjacent to US 2 in Columbia Heights. Only one of the stations offers lubrication and oil change facilities and both are considered to be low risk land uses for hazardous waste contamination. The proposed action would require minor amounts of right-of-way from each property and should not disturb underground fuel storage tanks.

Indirect Impacts - The proposed action would indirectly impact the gas stations and other highway commercial uses during construction by temporarily disrupting or altering access to the facilities. If a hazardous waste site is discovered or hazardous materials spilled during construction, work will cease until the EPA, MDHES, and Flathead County authorities are consulted to determine the appropriate action.

Cumulative Impacts - The proposed action **would** not contribute to any cumulative impacts on known hazardous waste sites in Flathead County.

7. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section examines the tradeoffs between short-term environmental gains and long-term gains, or vice versa, and the degree to which the proposed action limits future options in the project area. The importance of considering both the short-term and long-term effects of the proposed action is to assess the cumulative impacts which may substantially reduce or enhance the environment for future residents.

Many of the short-term effects of the proposed action were discussed in the previous narrative describing the construction impacts of this project. Long-term effects of the proposed highway reconstruction include loss of land for right-of-way, secondary development induced by facility improvements, and improved traffic operations and safety in the corridor.

US 2 has been identified as an important traffic route and is included on the interim National Highway System. Completion of the proposed improvements on this segment of US 2 benefits Flathead County and the region.

Since the project follows essentially the same alignment as the present highway and the accessibility to adjacent lands will remain much the same, future development options for the corridor would not be limited by the proposed action. The proposed action would generally improve access within project corridor without disrupting the traditional travel patterns of local residents or seasonal visitors.

The project could serve to induce growth in this area of Flathead County, however, other overriding factors seem to control development trends in the corridor. First, current growth in Flathead County is generally occurring in areas outside of the highway corridor. Secondly, the lack of community services (water and sewer) and utilities outside of Columbia Heights will affect the pace of development in the corridor. The availability of community services is viewed as more important than improved transportation facilities in terms of dictating the pace of future development along this section of US 2.

The short-term effect of providing a safer and more efficient travel route would reduce the accident rate for the corridor and decrease travel times between Columbia Heights and Hungry Horse. The project's safety

improvements would minimize or eliminate current conditions that contribute to many injuries and deaths. Operational improvements would reduce energy consumption in the long-term by minimizing delays. Increased driver comfort and convenience would be a secondary effect of improved operations on the facility.

The proposed action would have a lasting effect on the visual quality of the area. Rock cliffs in Badrock Canyon would be excavated and some wooded areas adjacent to the river would be removed. This would alter the visual setting for some years and emphasize human encroachment on portions of the corridor. The degree of impact is tempered by the fact that similar actions were necessary to construct the existing highway through Badrock Canyon.

The short-term impacts to the recreational use of Berne Memorial Park would be offset by the development of replacement recreational facilities. This action would develop new long-term recreational opportunities for the public and would provide a much safer location for the public to access the Flathead River than at Berne Memorial Park.

8. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed action involves a commitment of resources which constitute an irretrievable and irreversible loss. These commitments are discussed below.

Raw Materials - The commitment of capital resources, construction materials, and labor to this project are irreversible. Once the decision to build is made, the necessary commitment of materials and resources cannot be shifted to an alternate use. Quantities of sand, gravel, steel, concrete, and asphalt paving materials would be required to construct this project. Fuel would be consumed by the equipment needed to build the project, but an overall net savings in fuel consumption would be realized by the vehicles using the new highway and bridge.

These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon the continued availability of these resources. Some of these resources, such as the gravel and oil products used in the plant mix surfacing, may be recycled for further use and are not necessarily irretrievable.

Human Effort - The project also requires an irretrievable commitment of human resources to design, construct, and maintain the transportation facilities. Engineering costs are usually estimated as a proportion of the total construction cost of the project. An average factor of 10% of the construction cost was used to estimate engineering costs for the alternatives. The costs for design and construction engineering would **be more than \$920,000** for the proposed project. The total time required for a design team to complete plans for the new highway and bridge is estimated to be at least one year.

The on-site labor requirements for the reconstruction of US 2 and the South Fork bridge is estimated to average between 10 and 30 people for some 30 months. Maintenance records show that more than 1,000 labor hours are **typically spent each year** directly maintaining the existing highway. Maintenance requirements should remain similar for the new facility.

Land - Construction of the proposed action would commit between **40 and 49** additional acres of land to the highway corridor. The direct use of the land for highway purposes would remove land from residential, commercial, and agricultural uses or open space.

Land used in the construction of the project is considered an irretrievable commitment during the period of time that the land is used for a highway. However, if a greater need arises for use of the land or if the facility is no longer needed, the land can be converted to another use.

Economic Resources - The proposed action requires irreversible economic commitments. Considerable amounts of public funds have already been spent planning this project. Construction of the new highway and bridge would require a commitment of between **\$13.4 and \$14.5 million**. These expenditures of Federal and State funds represent a major and irreversible commitment to improve vehicular travel on US 2 for both local and regional users.

Wildlife and Fisheries Resources - The loss of wildlife habitat due to the construction of this project would be minor. The types of habitat displaced by construction are plentiful throughout the Flathead region. Approximately 40 acres of land would be lost that provides habitat for small mammals and birds. Revegetation of the right-of-way will replenish some lands for resumed habitation by such species. The proposed action would place fill material in and along the Flathead River through part of Badrock Canyon. The effects of this action on fisheries should be minimal.

Aesthetics - The construction of the project would cause an irretrievable and irreversible alteration to the visual nature of the corridor. The proposed action imposes man-made structures, excavation scars, and embankments on the natural setting. Excavations and embankments will be replanted, and in time, the corridor would again assume a natural appearance. A substantial part of the corridor would be reconstructed following the current alignment of US 2, thereby minimizing changes on the existing visual conditions. Rock excavation in Badrock Canyon would be apparent for much longer than excavation or embankment areas.

Cultural - Several homes and businesses would be displaced by the proposed action. The potential for prompt and successful relocations is high in this area. Relocation from friends and familiar surroundings would occur for displaced homeowners. No important historical or archaeological properties are affected by the proposed reconstruction of US 2.

The commitment of these resources is based on the concept that the residents of Flathead County, the State of Montana, and the region will benefit by the improvements to this important element of the transportation system. These benefits consist of increased highway capacity, improved traffic safety, and savings in travel time. The benefits are expected to outweigh the commitments of irretrievable resources.

F. Overview of Impacts by Alternative

TABLE IV-8 lists the impacts of each alternative to the physical, biological, and socio-economic environments of the project area. The table also indicates if each impact is a growth-inducing or growth-inhibiting factor. The table provides a simple "side-by-side" comparison of the impacts associated with each alternative. The tradeoffs between alternatives are discussed in the Summary at the beginning of the EIS.

TABLE IV-8 (page 1 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
1. FARMLAND IMPACTS					
• Affects Locally Important Farmland?	Yes	Yes	Yes	Yes	No
• Acres Directly Converted for RW	39.2	37.3	34.1	32.4	0
• Acres Indirectly Converted	1.4	1.4	1.2	1.1	0
• Overall Impact on Farmland	Build alternatives would convert "locally important" farmland, but farmland is of low potential.				
Will Impact induce or inhibit growth?	Highway and access improvements could induce additional development that would impact farmland.				
2. GEOLOGIC IMPACTS IN BADROCK CANYON					
• Geologic feature affected by construction	Blasting would be necessary to excavate the west outcrop at Berne Memorial Park				
• Amount of rock to be excavated	Approximately 103,000 cubic yards	Approximately 82,500 cubic yards			None
• Extent of new rock cut	Approximately 1,100 along roadway with rock face ranging from 25 to 150 feet in height	Approximately 900 along roadway with rock face ranging from 30 to 140 feet in height			Present outcrop has 25-60 foot cliffs
3. WATER QUALITY IMPACTS					
• Surface Water Impacts	No adverse impacts to surface water quality were predicted by runoff modeling. Pollutant loads reaching the river would be minimal. Erosion of disturbed areas would not be a substantial concern due to implementation of BMPs to minimize sediment transport from the project area. Potential for surface water quality impacts due to residual nitrates from the use of explosives is judged to be low.				No direct impact. Surface runoff could indirectly affect water quality.
• Groundwater Impacts	No adverse impacts to ground water is expected because water table would not be affected. The spring/fountain at Berne Memorial Park would not be impacted but access to the spring would change. Blasting could cause temporary changes in production of springs in Badrock Canyon.				
• Affects EPA-designated sole-source Aquifers or Wellhead Protection Areas	No				
Will Impact induce or inhibit growth?	No	No	No	No	No

TABLE IV-8 (Page 2 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
4. WILD & SCENIC RIVER IMPACTS					
• River Segment/Management Corridor Present	The highway corridor passes through about 0.84 acres of the Middle Fork Recreational River Corridor. Some uncertainty exists about whether or not an easement exists for US 2 through the Corridor.				
• Area Affected by Proposed Action	Construction would affect 0.25 acres of the River Management Corridor	Construction would affect 0.11 acres of the River Management Corridor			US 2 exists on 0.07 acres of Corridor
• Effects on qualities/values of the Wild & Scenic River System	Build alternatives would not adversely affect the visual, recreational, or high water quality values of the Recreational River segment. The new highway would not be any more visible from the river than the existing road.				
Will Impact Induce or Inhibit growth?	No	No	No	No	No
5. FLOODPLAIN IMPACTS					
• Encroaches on 100-year Floodplain?	Yes, the alignment proposed for the build alternatives would encroach on the Flathead River in Badrock Canyon and South Fork of the Flathead River.				
• Extent of fill in Badrock Canyon	1,350 cubic yards below the ordinary high water mark to construct retaining wall	Less than 250 cubic yards below the ordinary high water mark to construct retaining wall			Not Applicable
• Location of Badrock Canyon Encroachment	Project Stations 600+00 to 608+00	Project Stations 603+00 to 608+00			Not Applicable
• Effects on Flathead River in Canyon	Build alternatives would reduce the width of the channel by no more than 3.5% at the elevation of the ordinary high water mark, but still substantially less than the natural downstream constriction caused by Fisherman's Rock.				
• Effects of South Fork Encroachment	Impacts would be minimal since new bridge would have one less pier and have a channel opening as large or larger than the existing bridge. Backwater conditions would be maintained or improved. Old bridge would be removed following construction.				
• NFIP 1-foot Standard Exceeded	No, modeling shows the build alternatives would have minimal effects on the elevation of the 100-year floodplain.				
Will Impact Induce or Inhibit growth?	No	No	No	No	No

TABLE IV-8 (Page 3 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
6. AIR QUALITY IMPACTS					
• General Impacts of Proposed Action	Simplified CO analyses show that neither 1-hour or 8-hour standards would be exceeded by the design year. Analyses show little differences between alternatives, but build alternatives would benefit air quality more than no-action.				
• Impacts of PM-10 Emissions	Vehicle use of the new highway would produce nearly 1,200 pounds of PM-10 emissions daily by the design year. Analyses have shown that PM-10 generated by construction activities and during the future operation of the new highway is not likely to contribute to violations of state and federal PM-10 standards in the Columbia Falls nonattainment area.		Vehicles on US 2 emit 727 pounds of PM-10 each day.		
Will Impact induce or inhibit growth?	No	No	No	No	No
7. NOISE IMPACTS					
• General Impacts of Proposed Action	Increases in noise levels along the corridor will occur with or without the project due to the projected increases in traffic volumes and the proximity of some receptors to the highway.				
• Predicted 2010 DHV $L_{eq}(h)$ Noise Levels	67-74 dBA		67-74 dBA		67-76 dBA
• Exceeds NAC for Activity Category B (67dBA)	Yes, NAC would generally be exceeded by the design year at rural locations within 150 feet of the new centerline. Several existing residences in the vicinity of Monte Vista Drive are located within 150 feet of the present road.				
• Will Increase in Noise be "Substantial"?	No	No	No	No	No
Will Impact induce or inhibit growth?	No	No	No	No	No
8. VEGETATION IMPACTS					
• General Impacts of Proposed Action	The build alternatives would remove varying amounts of vegetation within the corridor. The most notable impact would occur in Badrock Canyon where riparian vegetation would be cleared to accommodate changes in the road's alignment and the construction of a retaining wall along the river. Moderately dense forest growth would be cleared on the approaches to the new bridge. Two-lane designs would disturb 16-20% less area than four-lane designs.				No effect
• Affects Plant Species of Special Concern	No, but corridor contains habitat that could support such species.				

TABLE IV-8 (Page 4 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
Will Impact Induce or Inhibit growth?	No	No	No	No	No
9. WETLANDS IMPACTS					
• Wetland Types Affected	Varying amounts of Type W-1, W-2, and W-7 wetlands at 3 sites would be disturbed.				
• Acres of Jurisdictional Wetlands Disturbed by Proposed Action by Type	Type W-1 - 0.18 Type W-2 - 0.84 Type W-7 - 1.46 Total-- 2.44	Type W-1 - 0.14 Type W-2 - 0.84 Type W-7 - 1.46 Total-- 2.44	Type W-1 - 0.14 Type W-2 - 0.50 Type W-7 - 1.10 Total-- 1.74	Type W-1 - 0.17 Type W-2 - 0.50 Type W-7 - 1.10 Total-- 1.77	No effect
• Impact on wetlands values	Type W-7 wetlands contain riparian vegetation that serves as habitat for bald eagles. Wetland Sites 2 and 4 provide habitat for wildlife and waterfowl. None of the wetlands serve important flood control functions.				
Will Impact Induce or Inhibit growth?	No	No	No	No	No
10. WILDLIFE IMPACTS					
• General Impacts of Proposed Action	The amount of habitat lost to highway construction would not be substantial for any species. Suitable habitat exists immediately adjacent to the corridor to offset any displacement of species that occurs. The proposed action would not substantially disrupt or alter the travel corridor used by white tail deer that reside in the area west of Badrock Canyon. These deer often cross the highway to access the river. No other wildlife travel corridors were identified. Highway mortalities for wildlife and not expected to change dramatically with the new road.				No additional effect
• Impacts to Species of Special Concern	Adverse impacts to the bull trout or the westslope cutthroat trout are not likely. Habitat with characteristics favored by the Coeur d'Alene salamander exists in Badrock Canyon. Surveys by zoologists in 1993 and 1994 did not find any salamanders or amphibians. It was concluded that the species does not live in Badrock Canyon.				No additional effect
Will Impact Induce or Inhibit growth?	No	No	No	No	No
11. THREATENED OR ENDANGERED SPECIES IMPACTS					
• Species Potentially Affected	Northern bald eagle, peregrine falcon, Northern Rocky Mountain gray wolf, and the grizzly bear				

TABLE IV-8 (Page 5 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
• Effects on the Bald Eagle	Trees that provide screening for eagles foraging along river or potential perching sites near Berne Memorial Park would be removed. This adverse effect is tempered somewhat by the fact that no nests exist in the corridor and the numbers of eagles have declined in recent years due to the collapse of the kokanee salmon population migrating upstream from Flathead Lake. The USFWS issued a "No Jeopardy" on March 24, 1992.				No additional effects
• Effects on the Peregrine Falcon	The build alternatives would have no effect on the species or its critical habitat. The USFWS concurred with this conclusion.				No additional effects
• Effects on the Gray Wolf	The build alternatives would not affect wolves because no sightings of the species have been reported and the project would not substantially alter the prey base used by wolves. The USFWS concurred with this conclusion.				No additional effects
• Effects on the Grizzly Bear	The build alternatives would have little effect on the species because no important used for foraging or security would be removed. Badrock Canyon is not an important travel corridor for grizzly bears. The USFWS concurred with this conclusion.				No additional effects
Will Impact Induce or Inhibit growth?	No	No	No	No	No
12. IMPACTS TO ENVIRONMENTALLY SENSITIVE AREAS					
• General Impacts of Proposed Action	The build alternatives would have no direct impact on environmentally sensitive areas. The project would indirectly benefit visitors by providing a safer, more efficient access to the area. Badrock Canyon and NCDE impacts are discussed elsewhere in the Table and in Parts IV and V of the Final EIS.				No effect
Will Impact Induce or Inhibit growth?	No	No	No	No	No
13. LAND USE IMPACTS					
• General Impacts of Proposed Action	The proposed action would not directly change the type and extent of land uses that exist in the corridor. The highway and access improvements proposed may indirectly stimulate further commercial development in the corridor and other areas along the route to Glacier National Park. MDT has little control over the development of lands outside its right-of-way.				No direct effect
Will Impact Induce or Inhibit growth?	Highway and access improvements along with a growing population, increased visitation to Glacier National Park, and favorable development situations could stimulate growth.				Possibly inhibit growth

TABLE IV-8 (Page 6 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
14. RELOCATION IMPACTS					
• Number of Households Displaced	The build alternatives would affect between four and six households in the corridor.				None
• Estimated Number of Residents Affected	An estimated 11 to 17 residents would potentially be displaced.				None
• Number of Commercial Displacements	One home/business and buildings the Old Time Photo Company would be impacted.				None
• Other Right-of-Way Impacts	Right-of-way acquisition associated with the build alternatives would encroach on some residences and businesses in the corridor causing a loss of parking areas or yards.				No effects
Will impact induce or inhibit growth?	No	No	No	No	No
15. SOCIAL IMPACTS					
• Affects Minority or Disadvantaged Population	No	No	No	No	No
• Affects Neighborhoods/Community Cohesion	No	No	No	No	No
• Other Social Impacts	The build alternatives would provide traffic safety benefits over the no action alternative. The new highway in Columbia Heights may be more difficult for local pedestrians to cross. Facilities for bicyclists and pedestrians would be improved over existing conditions.				No other impacts
Will impact induce or inhibit growth?	Highway improvements have the potential to induce growth on lands adjacent to US 2.				No
16. ECONOMIC IMPACTS					
• General Impacts of Proposed Action	The build alternatives would directly affect two businesses within the corridor and would remove parking areas from several others. Minor growth would be expected in the economy of Flathead County and the project area by making the corridor more attractive to business investment. Minor amounts of taxable property would be removed from the tax bases by right-of-way acquisition. Economic benefits would be realized during construction by increased local employment, purchases of construction materials and services, and by expenditures of workers.				No impacts
Will impact induce or inhibit growth?	Highway improvements when combined with other factors like improved access, a growing county population, and increasing tourism in the region could induce economic growth in the project corridor and Flathead County.				Possibly inhibit growth

TABLE IV-8 (Page 7 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
17. HISTORICAL AND ARCHAEOLOGICAL PRESERVATION					
• Affects Sites On or Eligible for National Register	No	No	No	No	No
• Impacts to Historic Sites	The new alignment would pass directly through the remains of 24FH419. Excavation of the western cliff at Berne Memorial Park would remove the rock carving associated with 24FH420. Construction at the replacement park/river access would disturb 24FH453 and 24FH454. Construction would impact up to 270 feet of the Badrock Canyon "Tote" Road (24FH583) at the west end of Berne Memorial Park. Access to the west end of the road would be eliminated. The proposed realignment of Berne Road would pass directly through 24FH455. Existing South Fork bridge would be removed. MDT determined that the structure is not important to understanding the history of bridge construction in Montana.				
• Impacts to Native American Cultural Sites	The build alternatives would not impact cultural sites of the Blackfeet, Salish, or Kootenai Tribes.				
Will Impact Induce or inhibit growth?	No	No	No	No	No
18. RECREATIONAL IMPACTS					
• Developed Recreation Sites Affected	A minor amount of right-of-way would be acquired at the Hoot-Owl Ranch located east of Columbia Heights. Highway construction may require that a go-cart track be modified. Access and parking at Berne Memorial Park would be modified.				
• Disrupts Dispersed Recreation Opportunities	No	No	No	No	No
• Effects on the Flathead Recreational Waterway	The build alternatives would directly impact the Flathead Recreational Waterway by placing fill in the river and removing riparian vegetation along its banks. The use of the waterway would indirectly be enhanced by providing of a new river access in the corridor.				
Will Impact Induce or inhibit growth?	Build alternatives have the potential to induce further recreational use of the Flathead River by providing a new river access in the corridor.				
19. VISUAL IMPACTS					
• Visual Resources Affected	The build alternatives would affect riparian vegetation, some dense forest cover, and the west cliff at park.				

TABLE IV-8 (Page 8 of 8)
COLUMBIA HEIGHTS-HUNGRY HORSE EIS
SUMMARY OF ENVIRONMENTAL IMPACTS

IMPACT/CONSIDERATION	ALTERNATIVE 1 (MDT Preferred)	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	ALTERNATIVE 5 (No-Action)
• Extent Rock Excavation	Would produce a new exposed rock face ranging from 25 to 150 feet in height for a distance of about 650 feet along the road.		Would produce a new exposed rock face ranging from 30 to 140 feet in height for a distance of about 600 feet.		No additional effects
• Overall Impacts	The visual impacts of the build alternatives would be similar. All build alternatives would increase the visual scale of the highway and would remove substantial amounts of vegetation between the river and the road near Berne Memorial Park.				None
Will Impact Induce or Inhibit growth?	No	No	No	No	No
20. IMPACTS TO HAZARDOUS WASTE SITES					
• Hazardous Waste Sites Affected	Two gas station/convenience stores are located in Columbia Heights, one has lubrication/oil change facilities.				
• Extent of Impact	The build alternatives would require minor amounts of property for right-of-way. No facilities (pumps or underground storage tanks) would be affected. Access to each site would be temporarily altered during construction.				
Will Impact Induce or Inhibit growth?	No	No	No	No	No
21. CONSTRUCTION IMPACTS					
• General Impacts of Proposed Action	These impacts on the environment are unavoidable and would occur with all build alternatives. The primary impacts would be the alteration of surface materials, short-term increases in dust and noise from equipment, and temporary displacement of wildlife from the construction zone. The erosion of disturbed areas and surface runoff could cause minor degradation of surface waters but will be controlled through the use of best management practices (BMPs) for erosion control identified during the design of the project. Motorists would experience temporary delays and short detours. Access to businesses and residences would be temporarily affected but maintained. Construction activities would benefit the local economy of the area. Blasting to excavate rock in Badrock Canyon could produce short-term noise and vibration effects.				
Will Impact Induce or Inhibit growth?	No	No	No	No	No

G. Summary of Mitigation and Environmental Commitments

The following **paragraphs summarize** the major mitigation measures discussed previously in this Part. These mitigative actions apply to all build alternatives if the same environmental impact (regardless of degree) applies to the individual alternatives.

1. MITIGATION FOR IMPACTS TO THE PHYSICAL ENVIRONMENT

- No mitigation is planned for the conversion of farmland to highway uses in the corridor.
- The placement of fill in the Flathead River near Berne Memorial Park and at the new bridge site on the South Fork of the Flathead **will** be subject to the provisions specified in the Section 404 permit for the proposed action.
- **The proposed action will incorporate a vertical retaining wall along the Flathead River in Badrock Canyon to minimize the encroachment on the Flathead River.**
- Curbs and gutters and a piped storm drainage system **will** be constructed to accommodate highway runoff in Columbia Heights. Runoff collected by the system **will** be discharged in a manner consistent with the MDHES policy of non-degradation of surface waters and conform to the agency's storm water management guidelines.
- The spring at Berne Memorial Park **will** be perpetuated at its present location, however, the access to the water source **will** be restructured to reduce conflicts between spring users and through traffic.
- No mitigation is planned for increased noise levels in the project corridor. Acquisition of right-of-way for the new highway **will** generally relocate the few residents near the road that would experience the adverse effects of increased noise levels.
- **Highway designers will use the Highway Construction Standard Erosion Control Work Plan to identify best management practices (BMPs) to control erosion and minimize the transport of sediments to surface waters.**
- **The following general measures will be employed to mitigate the potential adverse visual effects of the proposed action.**
 - ◆ Implementing limited access control to help minimize the number of approaches along US 2 and improve the appearance of the corridor.
 - ◆ Pursuing the acquisition of private lands to control incompatible development and maintain the natural appearance of Badrock Canyon.
 - ◆ Contacting the National Park Service and the USFS for recommendations of scenic enhancement measures that can be incorporated in the design of the new facility.
 - ◆ Varying the tree line during right-of-way clearing to avoid creating a "tunnel effect" and to add interest where the road passes through dense timber.
 - ◆ Establishing strict construction limits and employing selective tree cutting in areas adjacent to the Flathead River to preserve visual qualities and

habitat for bald eagles and other wildlife.

- ◆ Requiring prompt revegetation of areas disturbed by construction.
- The following measures will be incorporated into the design of the new rock cut in Badrock Canyon:
 - ◆ The completion of additional geotechnical investigations of the west outcrop to refine the rock slope design and better understand rock mechanics in the outcrop.
 - ◆ The provision of on-site geotechnical supervision during excavation of the outcrop to monitor and determine where presplit holes should be drilled to make the best use of the existing strong controlling joints and bedding planes.
 - ◆ "Rock sculpturing" techniques will be used to produce a rough textured cut surface which will reflect the existing terrain and accent natural fracture lines in the rock.
 - ◆ The newly exposed rock faces may be stained with commercially available products to give them a weathered appearance. This would not be done if such products are likely to produce adverse effects on surface or groundwaters. The potential environmental effects of such products will be investigated before they are recommended for use.
 - ◆ Random plantings of vegetation on the rock face could be introduced to reduce the scale of the new rock cut. The feasibility of such plantings will be considered during the final design of the project.
 - ◆ The rock cut will be designed to maintain existing drainages and seeps over the rock face. Horizontal drain holes will be drilled into the face of the new cut to control water pressures. Drainage through these holes is likely to form a "weeping" rock face which would freeze during winter months.
 - ◆ The heads of rock bolts used to stabilize blocks and slabs in the outcrop would be colored to match the rock.
- Blast hole liners to encase ANFO will be required in the excavation of the outcrop in Badrock Canyon. This measure will minimize the potential for spillage of ANFO on the surface of the outcrop and for undetonated explosives.
- Temporary rock storage piles will be located away from areas where precipitation leaching through excavated rock may transport residual nitrates to surface waters. Rock storage piles will be located above the water table to prevent impacts to groundwater. Measures to control runoff entering and leaving the area where rock is temporarily stored will be employed.
- The following measures will be employed during the construction of the proposed action to mitigate the potential for indirectly causing adverse effects on the Columbia Falls PM-10 nonattainment area:

- ◆ Street sweeping will be done, as needed, at both ends of the project to reduce the impact of carry-on dirt from the project to paved streets within the nonattainment area boundaries.
- ◆ Unpaved detours will be watered and/or chemically stabilized so that the emissions are less than 20% opacity.
- ◆ If slash generated by right-of-way clearing is to be burned, it will be hand-piled or stacked with a brush blade and cured. Any open burning will be subject to restrictions of an open burning permit from the County, if one is required.
- ◆ Operators of gravel crushers and asphalt plants used for this project will be required to obtain an air quality permit from the MDHES Air Quality Bureau.

2. MITIGATION FOR IMPACTS TO THE BIOLOGICAL ENVIRONMENT

- Topsoil stripped from the right-of-way during construction **will** be stockpiled and used to cover cut and fill areas to facilitate revegetation.
- Impacts to wetlands in the project corridor **will** be mitigated based on the values and functions each area serves not solely on the acreages lost or adversely affected. **Opportunities to develop a replacement wetland area and expand an existing wetland site have been identified.**
- **Potential sedimentation impacts will be avoided by strict adherence to standard construction practices and implementation of BMPs designed to minimize erosion and sediment transport to surface waters.**
- Plant species used to revegetate disturbed areas adjacent to the highway **will** be selected to minimize its attractiveness to wildlife. Careful selection of such vegetation may help prevent animals from being attracted to the roadside.
- **Efforts will be made to quantify the number of deer mortalities resulting from collisions with vehicles on US 2 between the House of Mystery and Badrock Canyon. These efforts will determine if the frequency of such incidents is higher at this location than at other road locations in the corridor. If appropriate, warning signs for this deer crossing area could be installed.**
- Measures **will be incorporated** into the design and construction of the project to minimize impacts on bald eagles and their habitat including:
 - ◆ Limiting construction between mid-October and mid-March so eagles would not be displaced from hunting perches or roosts.
 - ◆ Consulting with the USFWS if eagles establish a nest territory within one-half mile of the project area prior to construction.
 - ◆ Modifying overhead powerlines that pose an electrocution or collision threat.
 - ◆ Contacting the Montana Bald Eagle Working Group for assistance in developing an interpretive exhibit about bald eagles in the Flathead region.

- ◆ Undertaking a study to identify riparian and riverine lands within the project area that constitute important habitat for bald eagles. The study will also examine the feasibility of acquiring such lands as a means of preserving important habitat for the species.

3. MITIGATION FOR IMPACTS TO THE HUMAN ENVIRONMENT

- In an attempt to control the development of incompatible land uses from the Berne Road area to Hungry Horse, actions to acquire several large private landholdings **have already been initiated. To date, attempts to option or acquire about 100 acres of private land in Badrock Canyon have been unsuccessful. However, a 38 acre tract surrounding the House of Mystery and a parcel fronting US 2 and Berne Road, opposite the House of Mystery have already been acquired.**
- **Funding was contributed to the Canyon Citizen Initiated Zoning Group to help develop a growth management plan for lands adjoining the US 2 corridor from the House of Mystery to Marias Pass.**
- Right-of-way for the project **will** be purchased at fair market value. Residents and businesses affected by relocation **will** be provided assistance, as required by the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. Provisions of the Act **will** be carried out through the Relocation Assistance Program.
- **A detailed engineering study will be prepared** to evaluate the need for signalization and appropriate pedestrian crossing facilities in Columbia Heights.
- **Efforts will be made to** ensure that the construction schedule and activities minimize adverse effects on residents and businesses in the corridor. Access to businesses **will** be maintained throughout the construction period.
- Previously undiscovered historic or archeological resources discovered during construction **will** be protected by stopping construction in the vicinity until the resource can be evaluated for its significance.
- For impacts to Berne Memorial Park, the development of replacement parkland on a site adjacent to the Flathead River near the House of Mystery **is proposed.** The facility **will** be designed to provide safe, controlled approaches and structured parking areas for users of the facility. Exhibits from the existing roadside park **will** be relocated to the replacement area. A new public river access **will** be jointly developed with the USFS at this location.
- The USFS and the NPS **will be consulted** for scenic enhancement **ideas** that can be incorporated into the design of the project.
- If a hazardous waste site is discovered or a hazardous material is spilled during construction, work **will** cease until EPA, MDHES, and Flathead County residents are consulted to determine the appropriate action.

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Part V: Final Section 4(f) Evaluation

A. Purpose and Requirements

Section 4(f) of the U.S. Department of Transportation Act was originally enacted in 1966. The initial statutes were amended and recodified in 49 U.S.C. 303 in 1983. Current regulations state that "special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) requirements apply if a proposed highway project:

"Requires the use of publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge, of national, state, or local significance, or land of a historic site of national, state, or local significance."

Additionally, the requirements of Section 4(f) are stated in 23 CFR Subsection 771.135(a) as follows:

"The Administration may not approve the use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge or any significant historic site unless a determination is made that:

- (i) There is no feasible and prudent alternative to the use of land from the property; and
- (ii) The action includes all possible planning to minimize harm to the property resulting from such use."

The purpose of the following parts of this evaluation is to identify affected and potentially affected properties, assess the impacts of each alternative on the properties, and demonstrate that the project complies with the requirements of Section 4(f) of the DOT Act.

B. Proposed Action

The proposed action would improve 4.4 miles of highway located between Columbia Falls and Hungry Horse in Flathead County, Montana. The proposed action would reconstruct the existing two-lane highway from the intersection of US 2 and FAS 206 at Columbia Heights to the west edge of Hungry Horse. The project would also reconstruct the US 2/FAS 206 intersection and replace the existing two-lane bridge over the South Fork of the Flathead River. A complete project description, the purpose and need for the action, and alternatives considered are discussed in Parts I and II of the **Final EIS**.

C. Section 4(f) Properties

1. PROPERTIES CONSIDERED FOR 4(f) APPLICABILITY

Eleven properties located in the project corridor were examined for their applicability to Section 4(f). Each of the properties were identified and described in Part III of the EIS. **Cultural resource evaluations of historic and prehistoric sites and contacts with the administrators of other properties provided the basis for determining which properties would be afforded protection under Section 4(f).** The properties initially considered for this evaluation are shown in **FIGURE V-1** and listed below.

- **The remains of a small logging operation (24FH455) and two prehistoric sites containing scattered lithic flakes and fire-cracked rock (24FH453 and 24FH454) west of Badrock Canyon.**

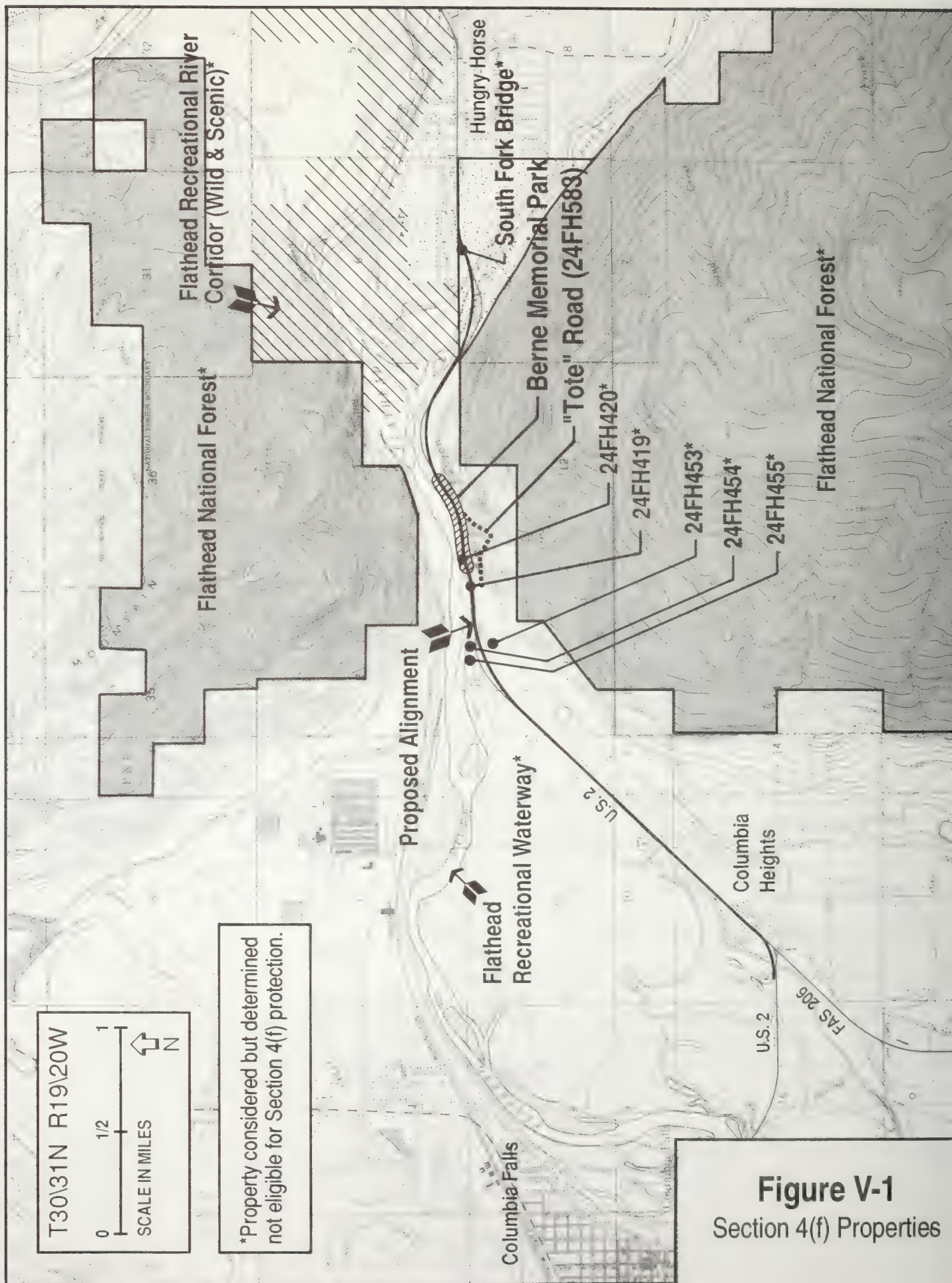


Figure V-1
Section 4(f) Properties

- The archaeological remains of a building, small refuse area, and linear rock alignment associated with the Frieda Wilkes Herrig/Berne homesite (24FH419) and a carving on an outcrop of Badrock Canyon near Berne Memorial Park (24FH420).
- The remnants of an old roadway in Badrock Canyon (24FH583), locally known as the "tote" road.
- Berne Memorial Park in Badrock Canyon.
- **Publicly owned** multiple-use lands of the Flathead National Forest.
- The Flathead Recreational Waterway.
- The Middle Fork Recreational River, a segment of the Flathead Wild & Scenic River System, near Hungry Horse
- The South Fork of the Flathead River Bridge west of Hungry Horse.

Evaluations of historic and prehistoric properties **affected by the proposed action concluded** that none of the sites were **on or** eligible for the National Register of Historic Places. **As a result, 24FH419, 24FH420, 24FH453, 24FH454, and 24FH455 are not subject to consideration under the provisions of Section 4(f).**

The remnant of the Badrock Canyon "Tote" Road was not considered in the Draft Section 4(f) Evaluation because the property was thought to be subject to the terms of a Programmatic Agreement regarding historic roads and bridges in Montana. According to the Programmatic Agreement between MDT, FHWA, SHPO, and the Advisory Council on Historic Preservation (ACHP), determinations of eligibility for the National Register are not needed for individual road segments because technical materials documenting the history of roads in Montana have already been prepared. A plan for preserving significant and representative road segments will also be developed under the terms of the Programmatic Agreement.

After reviewing public comments and further consultation with SHPO, it was concluded that the construction and much of the use of the "tote" road likely occurred before the period covered in the existing documentation of road building in Montana. As a result, cultural resource evaluations were performed to determine if the remaining segment of the "tote" road qualifies for inclusion in the National Register.

A cultural resource evaluation of the "tote" road, completed in May, 1994 provided the information needed to determine if the property is eligible for listing on the National Register. Based on the evaluation, the "tote" road was found eligible for listing in the National Register of Historic Places for its associations with the construction of the Great Northern Railroad and for the way in which it illustrates road engineering of the time. Correspondence from the SHPO (dated May 28, 1994) indicates the agency's concurrence with this determination of eligibility. A copy of this letter can be found in APPENDIX 8. Because the property was found eligible for the National Register, the "tote" road is considered in this Section 4(f) evaluation.

Berne Memorial Park is a public park subject to consideration under Section 4(f).

Because none of the publicly-owned multiple use lands of the Flathead National Forest affected by the proposed action are managed specifically for purposes subject to Section 4(f), publicly-owned forest lands are not considered in this evaluation.

The Administrator of the Montana Department of Fish, Wildlife, & Parks (FWP), Parks Division indicated that the Flathead Recreational Waterway itself is not subject to Section 4(f), however, individual recreation sites along the waterways may be subject to the provisions. Based on this determination, Fisherman's Rock **was identified** as an informal recreation site along the Flathead River at Berne Memorial Park and **considered to be** a feature of the park.

The Middle Fork Recreational River segment and its associated management zone are not considered in this Section 4(f) Evaluation. This determination was made because lands within the river management zone affected by the proposed action are not managed specifically for recreation or other Section 4(f) activities. This conclusion was also based on correspondence from the Flathead National Forest Hungry Horse District Ranger dated May 4, 1990 and March 12, 1991 included in Part VI of the Final EIS. The District Ranger's March 12, 1991 letter indicated that the proposed action is not likely to produce any significant impacts on the Flathead Wild and Scenic River Corridor.

Since the South Fork of the Flathead River Bridge at Hungry Horse was constructed more than 50 years ago and was not included in the Montana Historic Preservation Plan for Roads and Bridges, the **historical significance of the bridge was examined. If the bridge was determined eligible for listing on the National Register of Historic Places under the provisions of Section 106 of the National Historic Preservation Act, then the structure would be considered significant and eligible for Section 4(f) protection. Investigations determined that the South Fork Bridge is not significant for Section 4(f) purposes because it does not possess features that would make the bridge eligible for the National Register. The SHPO concurred with this determination in the agency's December 17, 1991 letter included in Part VI of the EIS. APPENDIX 12 contains an evaluation of the historical significance of the South Fork Bridge.**

Therefore, of the eleven properties considered in this evaluation, only Berne Memorial Park and the Badrock Canyon "Tote" Road (24FH583) were determined eligible for Section 4(f) protection according to 23 CFR 771.135(d). Correspondence regarding the Section 4(f) applicability of other properties is included in Part VI of the EIS.

2. SECTION 4(f) PROPERTIES CONSIDERED IN THIS EVALUATION

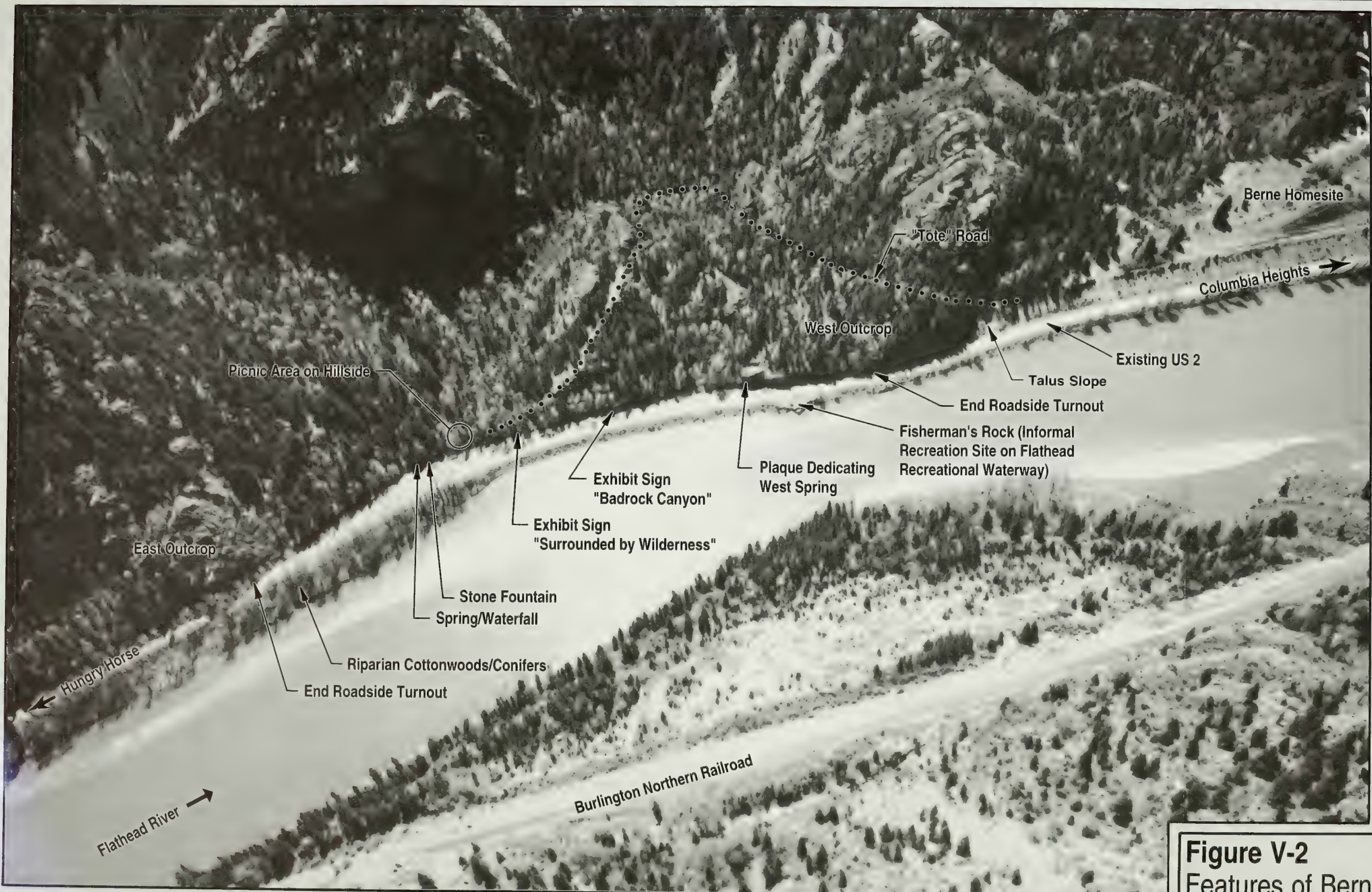
The following text provides maps showing the locations of 4(f) properties in the project corridor, describes the ownership and use of each property, and discusses the characteristics and features unique to the properties affected by the proposed action.

BERNE MEMORIAL PARK

Map of the Property - FIGURE V-2 shows Berne Memorial Park and the location of the existing roadway through this part of Badrock Canyon. Berne Roadside Park is legally described as the tract of land between boundary lines located parallel to the existing centerline of US 2 and lying 100 feet and 200 feet to the south of the existing centerline between Project Stations 18+00.0 and 37+00.0 for Project FAP 257 A. APPENDIX 8 contains the legal description from the Bargain and Sale Deed for the property (page A8-2) and a highway plan drawing for Project FAP 257-A showing the property boundaries of the park (page A8-4).

Size and Location of the Property - Berne Memorial Park lies adjacent to US 2 between the main stem of the Flathead River and a series of steep rock cliffs some 1.5 miles west of Hungry Horse. The park's general location in the project corridor was previously presented in FIGURE V-1.

The total area of Berne Memorial Park consists of some **8.45 acres**. This total includes a **0.10 acre area**



No Scale
Locations Shown for Some Features Are Approximate

Aerial Photo Date: 5/93

Figure V-2
Features of Berne Memorial Park
and Location of Badrock Canyon
"Tote" Road (24FH583)

at Fisherman's Rock, 3.87 acres of existing highway right-of-way between the edge of US 2 and the legally described roadside park, and 4.48 acres area the north boundary of the legally described park. A map showing the area considered as Section 4(f) property is included in APPENDIX 8.

Ownership and Type of Property - The property was purchased by the Montana Department of Highways in 1953 through a Bargain and Sale Deed with John P. and Hazel M. Simpson. A copy of the deed and other title documents are included in APPENDIX 8. The property was acquired as highway right-of-way for Project FAP 257-A and use as a roadside park. The park was named after Mike and Billy Berne, early settlers who maintained a home near Badrock Canyon.

The property was known as Berne Roadside Park until 1959 when a deed correction was filed with Flathead County changing the property's name to Berne **Memorial** Park.

Function of or Available Activities - The park primarily serves as a brief rest stop for motorists on US 2. Limited picnic facilities and trails are available in the rock outcrops of the park. **The park also provides a location for some park users to view scenery or wildlife.**

One of the springs in Berne Memorial Park provides a year-round source of water for park users. The park also serves as an interpretive site for visitors since exhibit signs relating information about the natural features and historical background of the region have been placed at the turnout.

Fisherman's Rock and adjacent river banks are locally known as fishing sites. Fishermen and floaters on the Flathead River sometimes use Berne Memorial Park as a vehicle parking area and for general river access. Vendors have been known to use the roadside park during the summer. **Commercial enterprises may occur, however, these activities are not permitted within highway rights-of-way.**

Description and Location of Existing Facilities - The park consists of a wide, gravel-surfaced turnout bounded by massive rock outcrops at the east and west ends of the park. **FIGURE V-2** shows the locations of major features in Berne Memorial Park. Berne Memorial Park contains the following features:

- A roadside exhibit (sign) titled "Bad Rock Canyon" describing the area as the site of a battle between the Blackfeet and Flathead Indian tribes.
- A roadside exhibit (sign) titled "Surrounded By Wilderness" describing the Canyon's location relative to the Bob Marshall and Great Bear Wilderness Areas.
- A free-flowing spring and a stone fountain.
- A bronze plaque (24" x 37") dedicating the spring at the west end of the park to Walter H. Griffin and Perley N. Bernard, two people instrumental in promoting the construction of a highway over the Continental Divide.
- Three picnic tables **located on the hillside above the vehicle turnout.**
- Fisherman's Rock, a rocky point located across highway on the bank of the Flathead River.
- A small waterfall and stream near the stone fountain.

Several refuse containers are located at the park but no rest room facilities available. Photographs of these park features are shown contained in **PHOTO PLATES 8 and 9.**

Access and Usage - Berne Memorial Park is located directly adjacent to US 2 and is easily accessible

Photo Plate 8 - Berne Memorial Park Features

- Photo 1 -** This photograph shows the east end of Berne Memorial Park. The park, a large gravel-surfaced turnout adjacent to US 2, is bounded by steep rock cliffs at its east and west ends.
- Photo 2 -** The proposed action would excavate the cliff at the west end of Berne Memorial Park to improve the alignment of US 2. River users sometimes park in this area and cross the highway to access the Flathead.
- Photo 3 -** The Flathead River opposite Berne Memorial Park is often used by fishermen and floaters. Fisherman's Rock (near the top of the photo) protrudes into the river and is a notable feature of Badrock Canyon.
- Photo 4 -** Several picnic tables are located on the hillside at Berne Memorial Park. There are no restroom facilities at the park.



Photo 1



Photo 2



Photo 3



Photo 4

Photo Plate 9 - Berne Memorial Park Features

- Photo 1 -** This plaque, mounted on a rock face, dedicates the spring at the park to two people who promoted the construction of a highway over the Continental Divide in the region.
- Photo 2 -** The spring and fountain at Berne Memorial Park. The spring is an important source of water for area residents and tourists.
- Photo 3 -** This large interpretive sign provides information about the region for visitors.
- Photo 4 -** This interpretive sign discusses a battle between the Blackfeet and Flathead Tribes which may have occurred in the area. There is no evidence that shows the project area was the site of this battle.

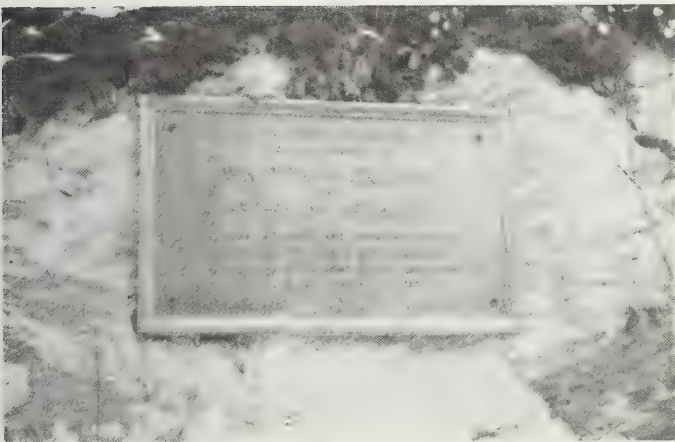


Photo 1

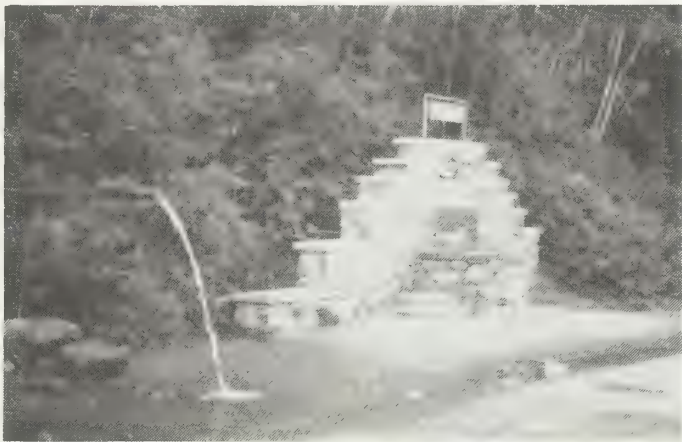


Photo 2

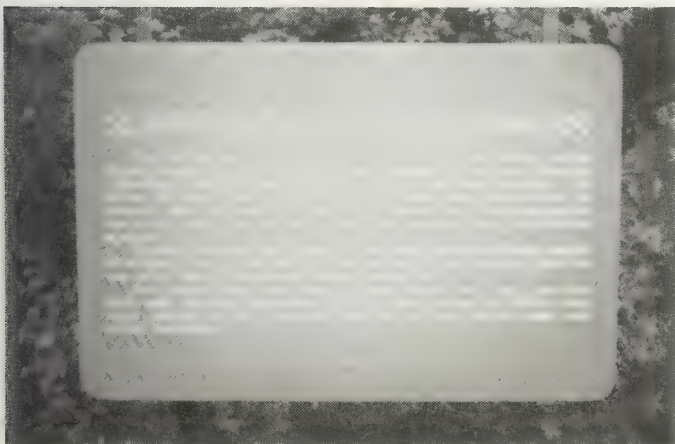


Photo 3

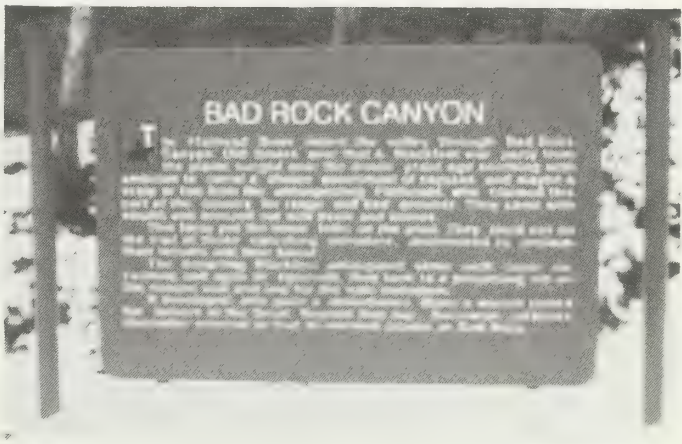


Photo 4

to all traffic. The predominant location where activities occur in Berne Memorial Park is a large turnout located adjacent to the highway. The turnout is used every time a park user stops to view the roadside exhibits, collects water at the spring, picnics or hikes in the cliffs above the park, or just pulls over to allow traffic to pass.

Most of the man-made features at Berne Memorial Park occur on about 1.80 acres of the 8.45 acre property. This acreage includes the area occupied by the existing roadside turnout. Recreational uses of one kind or another can occur on nearly all of the property. Limits have been placed on the duration of parking in the roadside turnout.

No data is collected to document the number of users, the type of recreational use, or the duration of recreation activities by visitors to Berne Memorial Park. The Coalition for Canyon Preservation (CCP), a local environmental group, submitted vehicle and recreational use data for the park during scoping for the EIS. The CCP conducted eight total hours of vehicle counts at the park for various days in July and August of 1986, 1988, 1989 (1). This data is presented below in TABLE V-1.

TABLE V-1 CCP VEHICLE USE COUNTS AT BERNE MEMORIAL PARK																
Month/Year	July 1986			August 1986		July 1988					July 1989					
Date of Count	17	18	29	12	19	3	4 (AM)	4 (PM)	5	14	4	6	9	12	14	21
Westbound Traffic	9	8	7	11	9	13	9	10	14	8	23	8	6	11	12	13
Eastbound Traffic	12	11	10	7	11	13	3	14	11	7	14	8	12	11	7	9

The totals presented in TABLE V-1 represent the number of vehicles parked in the turnout at the beginning of the count period plus the number of westbound or eastbound vehicles that turned off US 2 into the turnout during the period. Based on the data in TABLE V-1, the CCP concluded that on the average, about 10 vehicles per 15-minute period (or 40 vehicles per hour) use the park during the peak travel months. Extrapolating a single average hourly use figure for the park from this information is misleading because it is based on short-term counts for different half-hour long intervals on various days over three different years. However, the information provided by the CCP does suggest frequent use of the park area during the peak travel months on US 2.

Relationship to Other Similarly Used Lands in Vicinity - Other public lands near Berne Memorial Park are managed by the Flathead National Forest for dispersed recreational activities. As indicated previously, informal trails exist in the cliffs above the roadside turnout at Berne Memorial Park. These trails were made over the years by users of the park and are not part of the Columbia Mountain or Fawn Lake trails designated within the Flathead National Forest. It is conceivable that some park users could access these trails from Berne Memorial Park. However, the park does not function as a trailhead for either trail. The trailhead for the Columbia Mountain trail is accessed via Monte Vista Drive or Berne Road and the Fawn Lake trail is accessed by a primitive road near the existing US 2 bridge over the South Fork of the Flathead River.

The nearest roadside park for motorists on US 2 is located in Hungry Horse, some two miles west of Berne Memorial Park. This public park offers similar opportunities for passive recreation, like picnicking, but is

located in a developed area away from the Flathead River.

Applicable Clauses Affecting Ownership - A provision of the 1953 transaction with John P. and Hazel M. Simpson requires that the land be used as highway right-of-way and a roadside park or port-of-entry and never for commercial purposes. The title documents state that any breach of the original conditions of the deed will forfeit the title to the property and ownership will revert to the Simpson family.

Unusual Characteristics of the Property - The unusual characteristics of the property are related to operational problems and safety hazards which exist at the park. The outcrops at each end of the roadside park severely obstruct sight distance and make it difficult for through traffic to see vehicles entering or leaving the turnout. During the summer, dust from traffic on the gravel-surfaced turnout often makes this condition worse by briefly obscuring pedestrians or vehicles in the park from traffic on US 2. There are no designated parking areas or defined circulation within the existing park. It is not uncommon for vehicles to enter the park from US 2 at or near travel speeds similar to those on the highway. These unusual conditions contribute to the traffic conflicts which often occur at this site.

Another unusual and **potentially** hazardous condition is presented by pedestrians crossing the highway to view or access the river at Berne Memorial Park. Due to the lack of a convenient alternate site, floaters and fishermen **sometimes** enter or leave the river at this location. These river users must cross the highway, often carrying their boats or other gear and scale the guardrail adjacent to the river. River users may leave vehicles at the park for extended periods.

Comments during scoping indicated that US 2 at Berne Memorial Park was overtopped by the 1964 flood, the largest on record for the Flathead River system.

BADROCK CANYON "TOTE" ROAD (24FH583)

Map of the Property - FIGURE V-2 shows the approximate location of the "tote" road in the outcrops above the roadside turnout at Berne Memorial Park and at the west end of Badrock Canyon. Portions of the "tote" road are within the legally described boundaries of Berne Memorial Park.

Size and Location of the Property - Cultural resource inventories have shown that approximately 640 meters (2,100 feet) of the Badrock Canyon "Tote" Road remain relatively intact in the steep outcrops above Berne Memorial Park and US 2. The exact location of the Badrock Canyon "Tote" Road west of the Canyon is less certain. Investigations of the road's location in this area suggest that it likely continued southwesterly along the base of the mountains or generally paralleled the Flathead River. Previous highway construction and other modern developments have obscured or removed traces of the "Tote" Road in the area west of Badrock Canyon. The old road is located about 4.5 miles east of Columbia Falls and 1.5 miles west of Hungry Horse.

The remaining section of the "tote" road has a road bed that averages 4 to 5 meters (13 to 16 feet) in width. The road is contained by an excavated road bed that roughly parallels the alignment of existing US 2. The east end of the "tote" road above the turnout at Berne Memorial Park begins at an elevation of 3,020 feet and ascends the steep lower slopes of Columbia Mountain to an elevation of 3,260. The west end of the tote road is located in an open meadow at an elevation of 3,080 feet.

The "tote" road lies within parcels legally described as Lot 3 in the northeast quarter of Section 11, Township 30 North, Range 20 West and Lots 1 and 2 in the northwest quarter of Section 12, Township 30 North, Range 20 West.

Ownership and Type of Property - The "tote" road crosses private lands owned by the Simpson Family Trust and lands owned by the State of Montana that serve as right-of-way for US 2 and as

Berne Memorial Park. Portions of the "tote" road are also located within easements for overhead electrical transmission lines operated by the Bonneville Power Administration.

The property is classified as a historic road. Comments received on the Draft EIS/Section 4(f) Evaluation suggest that the "tote" road followed a trail used by Native Americans passing through the area. The historical record and personal accounts show that Badrock Canyon was used as a travel corridor by Native Americans. Curly Bear Wagner, Cultural Coordinator for the Blackfeet Tribe, indicates that a trail through Badrock Canyon was part of a trail system over Marias Pass used during expeditions to trade with the Salish, Kootenai, Flathead, Kalispell, and Coeur d'Alene Tribes. However, little evidence exists to relate Native American travel through Badrock Canyon to the specific route followed by the "tote" road. The most notable and readily observed features of the "tote" road relate to its construction and use after 1891.

Function of Property - The property is a remnant of a supply road constructed by the Great Northern Railroad in 1890-91. Although supply roads were typically located adjacent to or even on the same alignment as the actual rail line under construction, the steep and rocky terrain of Badrock Canyon required that the road be built on the opposite side (south) of the Flathead River from the track location.

Currently, the "tote" road provides a trail for use by hikers, horse traffic, and possibly mountain bikers. A game trail also parallels the road from end to end.

Description and Location of Existing Facilities - Some of the best evidence of this remaining section of the "tote" road exists where the road grade is cut into the rock outcrop immediately west of Berne Memorial Park. The road cuts directly through bedrock at this location and required considerable amounts of cut and fill. These features plus the steepness of the grade in this section attest to the difficult challenges faced by both builders and users of the road.

Features relating to the construction and/or use of the "tote" road were found during field investigations of the property. In addition to the excavated road bed, a broken wood pry bar, dynamite bore holes, fragmented rock retaining walls used to support the roadway, and trees scarred by ropes during the lowering of wagons down steep grades can be seen along the remaining segment of the "tote" road. An artifact identified as an end-battered cobble tool was found on a dirt access road near the point where the tote road emerges onto the meadow to the west of Badrock Canyon. No other artifacts were noted and the origin of the artifact found in the area remains uncertain. PHOTO PLATES 10 and 11 present photographs which illustrate typical features associated with the construction and use of the historic road.

Access and Usage - The "tote" road can be accessed through a meadow located south of US 2 on private property immediately west of Badrock Canyon. Several more modern dirt roads cross the meadow and provide access to a trail in the rock outcrop at the west end of Badrock Canyon. The "tote" road's eastern end can be accessed immediately west of the picnic tables on the hillside in Berne Memorial Park.

The road was used as a main access route through Badrock Canyon following the completion of the Great Northern Railroad. Research shows that it is likely that a stage line begun in 1891 also followed this route. However, by 1911, the "tote" road was replaced by a "meandering buggy road" through the Canyon. The impetus for abandoning the original "tote" road was increased automobile travel through the area and the need to develop a route more suitable for automobiles. Initial road building efforts by the Montana Department of Highways through Badrock Canyon began in 1929 and were completed in 1938. The State Highway Commission's construction plans for Highway 2 show that prior to 1929, a road was established at the base of the cliff through Badrock Canyon.

Photo Plate 10 - Features of the "Tote" Road (24FH583)

Photo 1

Photo 1 - This photo is taken looking to the north along a steeply cut section of the "tote" road, midway down the east side of the route. The excavated road bed of the "tote" road is clearly seen. The road bed of the "tote" road averages between four and five meters wide (13 to 16 feet).

Photo 2 - This photo, showing dynamite bore holes made in one of the rock outcrops above Berne Memorial Park, was taken looking to the northeast along the eastern segment of the "tote" road. Four such bore holes are clustered in the westward facing rock walls of this section of the "tote" road. The rock at this location is more completely metamorphosed and finer textured than at other locations along the route. Use of explosives indicates that this rock was not easily broken by prying as was apparently done in other areas along the route.

An wooden stick, believed to be a pry bar, was found wedged between layers of rock on the western segment of the "tote" road.



Photo 2

Photo Plate 11 - Features of the "Tote" Road (24FH583)



Photo 1

Photo 1 - Both the eastern and western segments of the "tote" road contain locations where fragmented rock was piled to support the outside edge of the road and create a level driving surface. Rocks used for constructing retaining wall sections were typically less than 20 by 20 inches in size.

Photo 2 - The archaeologist investigating the "tote" road identified four trees along the route which appear to contain rope scars sustained while wagons were lowered down steep grades. Historical accounts say that supply wagons were tied off to trees with ropes and slowly eased down steep sections of the road. The trees with scars are all nearly 12 inches in diameter and located along the outside edges of the road. The scars occur from ground level to about three feet above the ground and are always on the upward and road-facing sides of the trees.



Photo 2

Information documenting the number of people that use the "tote" road for recreational purposes does not exist. Recreational use of the "tote" road would be expected to be quite low since the existence of the "tote" road is not widely publicized; points where the "tote" road can be accessed are relatively obscure and unmarked; and the steep terrain through which the road passes probably discourages use by some individuals.

Relationship to Other Similarly Used Lands in the Vicinity - There are no other segments of the original Badrock Canyon "Tote" Road remaining. The old road does not provide direct connections to any trails designated and maintained by the USFS.

Applicable Clauses Affecting Ownership - The conditions of the 1953 transaction between the Montana Department of Highways and John P. and Hazel M. Simpson would apply to portions of the "tote" road that lie within the described boundaries of Berne Memorial Park. There are no known clauses which affect the ownership of other lands crossed by the "tote" road.

Unusual Characteristics of the Property - Previous road and electrical transmission line construction eliminated other sections of the original "tote" road. With the exception the east and west ends where the "tote" road joins US 2, the impacts of highway construction on this remaining section of the road have been minimal. Much of the road segment through the outcrops above Berne Memorial Park remains intact and easily definable.

D. Impacts to Section 4(f) Properties

In addition to no-action, one location alternative (**Improve the Existing Alignment**) and four design alternatives were identified as build alternatives for the proposed action. The basis for selecting these alternatives is described in detail in Part II of the EIS. All of the build alternatives affect similar features of Berne Memorial Park **and the "tote" road and the extent of the impacts varies only slightly because they** are on the same location in the vicinity of these Section 4(f) properties. The following paragraphs describe these impacts.

The two-lane **build** alternatives, identified as Alternatives 3 and 4 **in the EIS**, are not reasonable alternatives because they do not meet the stated purpose or adequately address the identified needs for the proposed action. **However, the costs, benefits, operational characteristics, and environmental impacts of Alternatives 3 and 4 have been discussed in the EIS and Section 4(f) Evaluation** due to public expectations and to document that detailed analyses were completed for each of the two-lane designs.

FIGURE V-3 shows the proposed alignment and construction limits of the build alternatives **in relation to Berne Memorial Park and the Badrock Canyon "Tote" Road**.

1. IMPACTS COMMON TO ALL ALTERNATIVES

Berne Memorial Park - None of the alternatives would affect the spring, the stone fountain, the picnic sites at the park, **or the east outcrop at Berne Memorial Park**.

Noise studies have shown that the FHWA Noise Abatement Criteria (NAC) are exceeded at Berne Memorial Park during peak hours under current traffic conditions. NAC will be exceeded at this site in design year for all alternatives, including no-action. The roadside location and cliffs that border the park contribute to traffic generated noise impacts at this site.

Badrock Canyon "Tote" Road (24FH583) - None of the alternatives would affect portions of the property which exist between the west outcrop of Badrock Canyon and the eastern end of the "tote"

road located near the picnic area above the roadside turnout at Berne Memorial Park. The unaffected portion of the "tote" road generally lies between Project Stations 593+00 and 606+00 (see FIGURE V-3 or the preliminary design drawing on page A4-4 in APPENDIX 4 of the EIS).

2. IMPACTS UNIQUE TO ALTERNATIVE 1 - (PREFERRED ACTION)

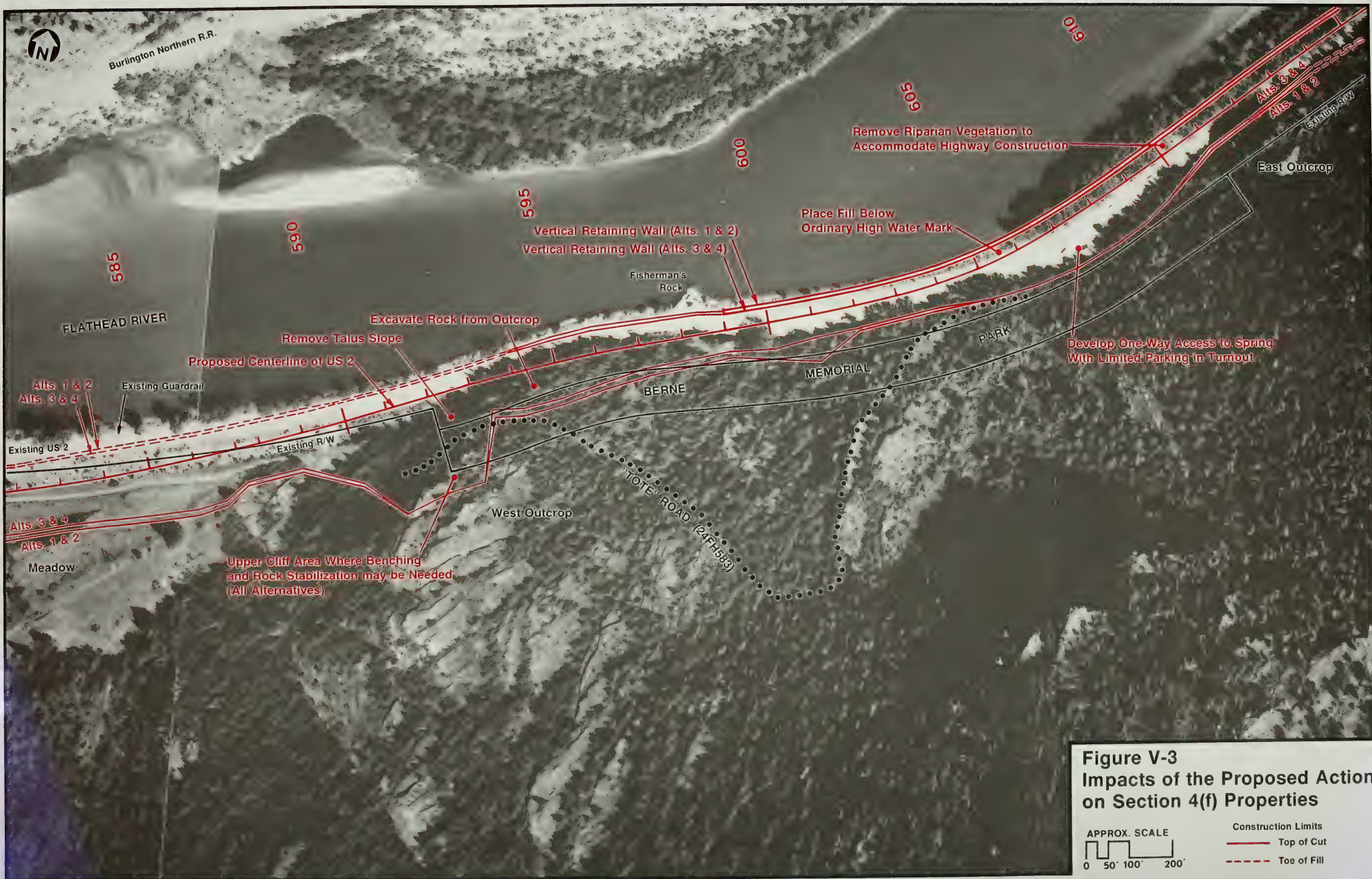
Berne Memorial Park - Construction of the preferred alternative would disturb 2.90 of the 8.45 total acres in Berne Memorial Park. Nearly 1.20 acres of the 1.80 acres of the **existing roadside turnout area at the park** would be affected by construction. Although construction would disturb a substantial amount of the turnout at the park used for recreation, most **manmade features at the park and the natural area above the fountain** would not be directly impacted by the proposed alternative. The **westernmost** exhibit sign **lies** within the construction limits identified for the preferred design. The use of some park facilities would be adversely affected by the loss of vehicle parking areas and convenient access to the river.

The primary impacts of Alternative 1 would occur at the extreme west end of Berne Memorial Park where a massive outcrop must be excavated to improve the alignment of US 2. The excavation would extend for some 1,000 feet and would produce rock cuts varying in height from 40 to 150 feet. Exposed cliff faces in this area of the park currently range from 25 to 60 feet in height. Vegetation on the affected outcrop would be cleared during construction. This rock excavation would also increase the area of exposed rock face at the west end of the park where an area of seeping water occurs. Construction is not expected to disrupt water flows in this area because the seep is fed by groundwater surfacing above the area to be excavated. The plaque commemorating this spring area would have to be removed and remounted on the rock face at the completion of construction activities. **PHOTO PLATE 6 in Part IV of the EIS shows the area where excavation would occur.**

The park would be indirectly affected by shifting the alignment toward the Flathead River to avoid the outcrop at the east end of Berne Memorial Park. **This action would affect about 700 feet of unvegetated river bank and 1,400 feet of vegetated river bank east of Fisherman's Rock. A vertical retaining wall, proposed for this riparian area as a means of minimizing the amount of fill placed below the ordinary high water mark of the river, would begin immediately east of Fisherman's Rock. The effects of placing fill in the river is described in the discussion of floodplain impacts in Part IV and in the Draft Section 404(b)(1) Evaluation included as APPENDIX 14 in the Final EIS. Fill was placed along portions of this river area during previous road construction and subsequent improvements to US 2.**

The construction of a vertical retaining wall between the new highway and the river would remove varying amounts of riparian cottonwoods, conifers, and shrubs that exist opposite Berne Memorial Park. These trees provide habitat for bald eagles and other wildlife. Construction of the highway and the retaining wall would clear all vegetation in some areas but would leave isolated bands of vegetation some 20-30 feet deep along other portions of the impacted river bank area. Potential impacts of the removal of riparian vegetation on wildlife and visual resources of the project area are described in Part IV of the EIS.

Badrock Canyon "Tote" Road (24FH583) - Approximately 270 feet of the remaining 2,100 feet of the "tote" road (or 13% of the road's length) would be lost due to the excavation of the outcrop at the west end of Badrock Canyon. Alternative 1 would eliminate about 60 feet of relatively intact road bed and 210 feet of trail and more recent road where the "tote" road probably existed. The most notable impact of this alternative would be the loss of access to the "tote" road from private lands west of Badrock Canyon. Currently, a narrow (2-3 foot wide) trail which accesses the old road from the west crosses the top of a talus slope at the base of the west outcrop in Badrock Canyon. Highway construction would remove the talus material at the base of the outcrop and eliminate access to the historic road from the west.



Rock excavation (benching), rock bolting, and other forms of rock stabilization may be required in the cliffs above the western section of the "tote" road to minimize rockfall hazards and ensure the safety of the traveling public on US 2. Mitigation of rockfall hazards would cause minor alterations to the appearance of the western outcrop of Badrock Canyon. However, these actions would have little if any impacts on the setting of the "tote" road since the work would occur away from where the old road enters the outcrop.

New highway construction through private lands west of Badrock Canyon would disturb areas where the "tote" road probably existed. However, cultural resource investigations did not yield clear evidence of the historic road's exact location or identify features associated with its construction in this area. Modern development on these lands and previous highway construction have eliminated or obscured evidence of the "tote" road's location.

The remainder of the historic road would be left intact. None of the engineering features associated with the road would be impacted by the proposed highway reconstruction. Access to the eastern terminus of the Badrock Canyon "Tote" Road would be perpetuated at Berne Memorial Park.

FIGURE V-3 shows the location of the Badrock Canyon "Tote" Road in relation to the construction limits of the build alternatives.

Based on the impacts of this highway reconstruction alternative on the "tote" road described above, a Determination of No Adverse Effect was prepared and submitted to the Montana SHPO and the ACHP. Both agencies concurred that the proposed project would have no adverse effect on the Badrock Canyon Tote Road. Correspondence from these agencies is included in APPENDIX 8.

3. IMPACTS UNIQUE TO ALTERNATIVE 2

Berne Memorial Park - Alternative 2 follows the same alignment and has the same design features as Alternative 1 through Badrock Canyon. Therefore, the impacts to Berne Memorial Park would be similar to those described in the paragraphs above.

Badrock Canyon "Tote" Road (24FH583) - Alternative 2 would be constructed on the same alignment and have the same road width and design features as Alternative 1 through Badrock Canyon. Therefore, the impacts to the "tote" road would be similar to those described in the previous paragraphs.

4. IMPACTS UNIQUE TO ALTERNATIVES 3 AND 4

Berne Memorial Park - Alternatives 3 and 4 would construct similar two-lane roads through Badrock Canyon and would affect Berne Memorial Park in the same manner. The kinds of impacts caused by these alternatives are similar to those associated with the four-lane designs. The extent of the impacts are reduced somewhat because the area disturbed by two-lane construction would be narrower (generally 10 feet less on each side of the highway) than that of the four-lane designs. **The construction limits for Alternatives 3 and 4 in the vicinity of Berne Memorial Park are shown on FIGURE V-3.**

The construction of these two-lane designs would disturb 2.20 acres of the **8.45** acres in Berne Memorial Park. **About 1.00 acres of the 1.80 acres of the existing roadside turnout would be lost to construction.** Alternatives 3 and 4 would not disturb the exhibit signs at the park. As indicated previously, the parking areas and convenient access to the river would be adversely affected by road construction.

Alignment modifications would require major excavation of the rock outcrop at the west end of Berne Memorial Park. A new rock face **900** feet long and ranging in height from 33 to 140 feet will be exposed

by the construction of the two-lane alternatives. **Like the four-lane alternatives, the plaque commemorating the spring in the west outcrop would have to be removed and remounted on the rock face at the completion of construction activities.**

Alternatives 3 and 4 would have similar, but slightly less impacts than Alternatives 1 and 2 on the riparian area opposite Berne Memorial Park because the location of the new road would be the same. If a vertical retaining wall were constructed with the two-lane alternatives, the amount of fill material placed below the ordinary high water mark of the river would be about 80% less than the four-lane designs. The two-lane designs would leave varying amounts of the existing riparian vegetation standing along the entire segment of US 2 where the retaining wall would be constructed. These impacts are discussed in Part IV of the EIS.

Fisherman's Rock would not be disturbed by **these** build alternatives.

Badrock Canyon "Tote" Road (24FH583) - The alignment modifications associated with Alternatives 3 and 4 would require that portions of the west outcrop of Badrock Canyon be excavated. The resulting impacts on the "tote" road would be similar even though the area disturbed by construction would be less than for Alternatives 1 and 2. Construction of Alternatives 3 or 4 would result in the eliminate 210 feet of trail and more recent road where the "tote" road probably existed. Impacts to the relatively intact portion of the "tote" road in the west outcrop would be slightly less than those associated with the four-lane alternatives. Since the talus slope at the west outcrop would be removed to construct a two-lane road, access to the "tote" road from the west would also be eliminated with these alternatives.

E. Avoidance Alternatives

Alternatives which would avoid Section 4(f) properties must be identified and evaluated according to 23 CFR 771.135(i). The following narrative identifies the location and design alternatives which were considered **to avoid impacts on Berne Memorial Park and the "tote" road**. Transportation System Management (TSM) activities and mass transit options also received initial consideration for this proposed action **but were eliminated because they were not responsive to the project's purpose and need.**

1. LOCATION ALTERNATIVES CONSIDERED

The location of this project has been established by the existing topography and previously completed improvements on **US 2**. The only alternatives which **totally avoid impacting Berne Memorial Park and the remaining section of the "tote" road** are construction on an alternate route and the no-action alternative. Other location alternatives, **like constructing a tunnel or grade-separated roadway through Badrock Canyon and closing US 2**, were suggested during scoping activities for this project.

Investigations showed that a tunnel for US 2 through Badrock Canyon could be constructed to avoid impacts on Berne Memorial Park. A tunnel would also be a way to avoid impacting all but the western end of the "tote" road. The minimum costs for constructing a two-lane tunnel or a four-lane tunnel through Badrock Canyon were estimated at \$46.5 million and \$93.0 million, respectively. Due to the unreasonably high costs associated with constructing a tunnel, potential impacts on flows of the springs at Berne Memorial Park due to rock boring, and the loss of convenient access to the Badrock Canyon for some facility users, this alternative was eliminated from consideration.

Closing US 2 was considered but eliminated from consideration because the facility is part of the interim National Highway System, an essential part of the State and national surface transportation network.

The construction of an elevated "double deck" roadway in Badrock Canyon was identified by the public as a measure that would minimize or avoid impacts on the Flathead River, Berne Memorial Park, and the "tote" road by reducing the extent of road widening near these features. This alternative was eliminated due to impacts on the use of the roadside park for some motorists, the visual intrusion of an elevated roadway in Badrock Canyon, the length and complex design of the required structure, and the high cost of building and maintaining such a facility.

All of these location alternatives were initially considered as ways to avoid 4(f) impacts but were rejected due to their excessive costs, their inability to fulfill the purposes and needs for this project, or their adverse effects on the environment. Part II of the EIS contains detailed descriptions of the location alternatives initially considered and a discussion of whether or not they are reasonable for the proposed action.

2. DESIGN ALTERNATIVES CONSIDERED

In addition to the specific two-lane and four-lane road designs identified in Part II of the EIS, several other design alternatives were investigated for this Section 4(f) Evaluation. Minor alignment shifts, a reduced facility, and special construction provisions were evaluated as design options to avoid or minimize impacts on Berne Memorial Park and the "tote" road. These alternatives are briefly discussed in the following paragraphs.

Minor Alignment Shifts - Minor alignment adjustments were evaluated as a way to avoid or minimize impacts on **Section 4(f) properties in Badrock Canyon**. The only alignments that **completely** avoid the park and remaining segment of the "tote" road would require that **US 2** be **shifted towards** the Flathead River or **onto the steep lower slopes of** Columbia Mountain. Shifting the road **south onto Columbia Mountain** would require that the road be constructed some 300 feet away from the existing highway. **Although this alignment would avoid impacts to Berne Memorial Park, it would eliminate much of the Badrock Canyon "Tote" Road and produce other adverse environmental impacts like:**

- **extensive** rock excavation on Columbia Mountain;
- disruptions of **terrain that provides** important wildlife habitat;
- **substantial** visual impacts **from rock cuts and tree removal**; and
- relocations of BPA towers and transmission lines and other electrical lines above the Park.

Shifting the alignment **towards** the Flathead River through Badrock Canyon was investigated in **further** detail for this evaluation. **Some comments received on the Draft EIS/Section 4(f) Evaluation stated that impacts to Berne Memorial Park, the "tote" road, and the west outcrop of Badrock Canyon could be avoided if US 2 was cantilevered over the river. As a result of these comments, additional information about cantilever support structures, bridge structures, and other designs modifications that could be used in areas adjacent to the Flathead River is provided in Part II of the EIS.**

An alignment for US 2 that would minimize impacts on Berne Memorial Park and the Badrock Canyon "Tote" Road is shown in FIGURE V-4. As the figure shows, the area disturbed by construction in the vicinity of the park would generally extend only to the southern edge of the existing highway where the roadside turnout begins. This alignment would require that most of US 2 between Project Stations 585+00 and 608+00 be supported by cantilever or bridge support structures since at least half of the new road would be located directly above the river or its banks. A vertical retaining wall would be necessary between Project Stations 608+00 and 620+00 to minimize encroachment on the river and impacts to riparian vegetation.

The avoidance alignment shown in FIGURE V-4 would produce adverse impacts to other resources in Badrock Canyon including:

- the removal of riparian vegetation opposite the park that provides screening and perching sites for bald eagles and habitat for other wildlife;
- potential changes to current patterns and other hydraulic characteristics of the Flathead River due to the construction of numerous piers and the placement of fill below the ordinary high water mark required to support the new road along at least 2,000 feet of river bank,
- potential adverse effects on floodplains, and
- the loss of recreational activities at Fisherman's Rock opposite Berne Memorial Park since the new road would be constructed directly over this notable Flathead River feature.

The avoidance alternative shown in FIGURE V-4 would affect riparian vegetation used by bald eagles and other wildlife to about the same extent as the preferred alternative. Varying amounts of riparian vegetation would remain between Stations 608+00 and 620+00. Perching opportunities and screening vegetation important to bald eagles in this portion of Badrock Canyon would be reduced but not eliminated by the avoidance alternative.

Both the preferred alternative and building the highway along the alignment to avoid the park would require the placement of fill below the ordinary high water mark of the Flathead River. However, the effects of the encroachment caused by building a vertical retaining wall included with the preferred alternative would likely be less than the effects of building multiple piers in the river channel. The preferred alternative would place about 1,350 cubic yards of fill below the ordinary high water mark for a distance of 600 feet along the river bank. With the avoidance alternative, the construction of piers would occur at multiple locations well into the river channel over distance of at least 2,300 feet. The total amount of excavation and fill associated with building numerous piers would probably exceed the amount of fill below the ordinary high water mark needed to construct the preferred alternative.

Shifting the alignment of US 2 into the Flathead River to avoid the park could affect the current patterns and other hydraulic characteristics due to the placement of multiple piers in the river channel. Piers would obstruct river flows and cause changes in the patterns of erosion or sediment deposition at areas downstream. Adverse floodplain effects could occur if the construction of piers increased the elevation of the 100-year flood by more than 0.5 feet. Calculations have shown that the preferred alternative would have little or no effect on the elevation of the 100-year floodplain in this area and would not substantially alter the current patterns or other hydraulic characteristics of the Flathead River.

Shifting US 2 towards the Flathead River to avoid Berne Memorial Park and the Badrock Canyon "Tote" Road would impact Fisherman's Rock, an informal recreation site along the Flathead River. Fisherman's Rock would lie directly under the cantilever or bridge support structure for the new road making access to the feature extremely difficult. Recreational use of Fishermans' Rock would be adversely affected since limited room between the top of the rock and the bottom of the support structure for the road would exist. The preferred alternative would not affect Fisherman's Rock.

Shifting the alignment of US 2 toward the river would eliminate the need to excavate the western outcrop of Badrock Canyon. Although a cost savings could be realized by avoiding excavation of the outcrop, the costs associated with constructing a cantilevered road or bridge structures to

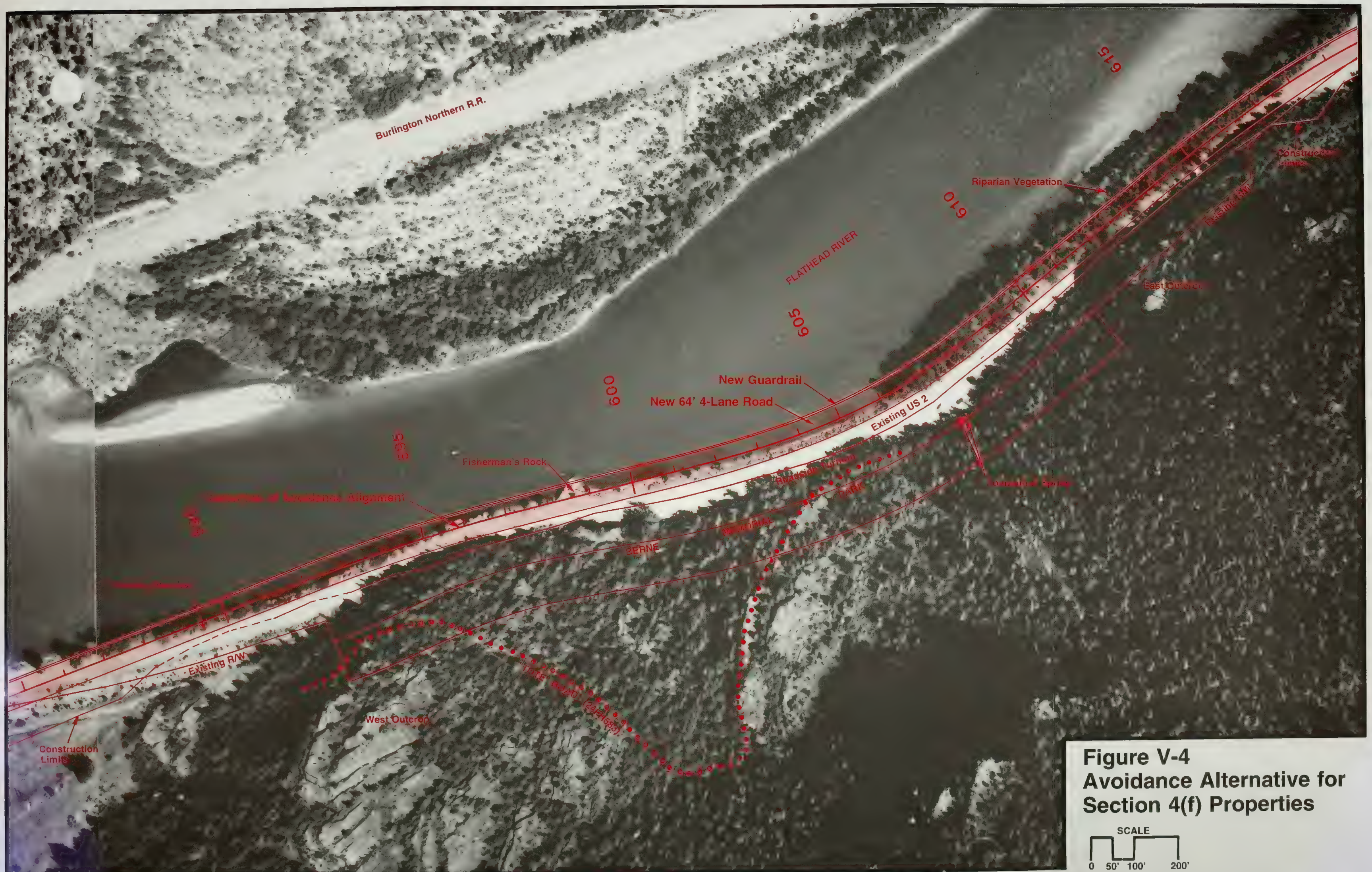
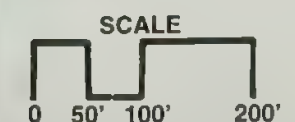


Figure V-4
Avoidance Alternative for
Section 4(f) Properties



support the highway would far exceed any savings in excavation costs. Estimates show that the total cost of this reconstruction project would be about \$29.6 million if US 2 were shifted towards the river to avoid Berne Memorial Park and the west outcrop of Badrock Canyon. This estimated cost is more than twice as high as the cost of the preferred alternative.

Since the costs and overall environmental impacts associated with shifting the alignment for US 2 to avoid all Section 4(f) properties in Badrock Canyon would exceed those of other alternatives considered for this action, minor alignment shifts are not considered to be a feasible or prudent means of avoiding impacts to Berne Memorial Park or the Badrock Canyon "Tote" Road.

Consideration of a Reduced Facility - Providing a reduced facility would also be a means to avoid or minimize impacts to the roadside park and the "tote" road. Such a road design would reduce the areas disturbed by construction and used for right-of-way. This would also translate to an overall savings in project costs.

In order to avoid the 4(f) properties, a facility narrower than 44 feet would have to be constructed on an alignment similar to that of the existing road. This design would not be consistent with the stated purposes and needs of this project. A road narrower than 44 feet is not consistent with AASHTO guidelines and geometric design standards for rural arterials with traffic volumes like those of the project corridor. Further, a reduced facility would not provide an acceptable level of service for the corridor.

Special Construction Provisions - There are few special construction provisions that can be implemented to avoid impacts to the features of Berne Memorial Park and the "tote" road. The preferred alternative as well as other avoidance options investigated for the proposed action would affect the rock outcrop at the west end of Berne Memorial Park, manmade features of the Park, the forested terrain above the park, or the Flathead River to varying degrees.

The construction of a vertical retaining wall between the Flathead River and US 2 near Berne Memorial Park is a special construction measure that has been proposed with the preferred alternative. The retaining wall would minimize the placement of fill below the ordinary high water mark near Fisherman's Rock and would limit the loss of riparian vegetation along the Flathead River opposite Berne Memorial Park.

Conclusion - Due to the extraordinary costs and environmental impacts resulting from the use of location or design alternatives that avoid Berne Memorial Park and the Badrock Canyon "Tote" Road, there are no feasible and prudent alternatives to the use of these Section 4(f) lands.

F. Summary of Impacts to Section 4(f) Properties

Previous discussions identified the potential impacts to Berne Memorial Park and the Badrock Canyon "Tote" Road (24FH583) that may result from the implementation of the alternatives considered for the proposed action. TABLE V-2 summarizes these impacts and other important considerations for each alternative.

FIGURE V-5 shows the simulated appearance of the Berne Memorial Park area in Badrock Canyon following construction of the preferred alternative (Alternative 1). This figure graphically summarizes the impacts of the proposed action on features of Berne Memorial Park, the riparian area of Flathead River near the park, and the west entrance to Badrock Canyon. The location of the "tote" road is also shown on FIGURE V-5.

The figure also shows the proposed turnout for spring users, the location of the vertical retaining wall along the river, and the likely areas where riparian vegetation would remain following

reconstruction. The impacts of the proposed action can be compared with the existing appearance of the area shown in FIGURE V-2 presented earlier in this Part.

**TABLE V-2
SUMMARY OF IMPACTS TO SECTION 4(f) PROPERTIES**

SECTION 4(f) IMPACT OR CONSIDERATION	BUILD ALTERNATIVES				AVOIDANCE ALTERNATIVES		
	Alternative 1	Alternative 2	Alternative 3	Alternative 4	No-Action (Alt. 5)	New Location/ Alignment Shift	Reduced Facility
Uses land from Berne Memorial Park	Yes	Yes	Yes	Yes	No	No/Yes	No ¹
Area of Park Lost to Construction	2.90 of 8.45 Total Acres		2.20 of 8.45 Total Acres		None	None/0.35 of 8.45 Total Acres	Undetermined ²
Active Recreation Area Lost	1.20 of 1.80 Acres		1.00 of 1.80 Acres		None	None/0.27 of 1.80 Total Acres	Undetermined ²
Features of Berne Memorial Park Directly Impacted	Outcrop and Spring at West End of Park, Westernmost Exhibit Sign, Loss of Convenient Access and Parking Areas in Turnout				None	None/ West Outcrop, Fisherman's Rock	West Outcrop
Indirect Impacts to Berne Memorial Park	Lateral Encroachment on Flathead River, Loss of Riparian Vegetation Opposite Park, Visual Qualities Affected ¹				None	Encroachment, Loss of Riparian Vegetation, Visual Impacts	Loss of Riparian Vegetation
Traffic Noise at Park Exceeds FHWA Noise Abatement Criteria (NAC)	Yes	Yes	Yes	Yes	Yes	No/Not Applicable	Yes
Uses land from Badrock Canyon "Tote" Road (24FH583)	Yes	Yes	Yes	Yes	No	No/No	No
Direct impacts to "tote" road	About 270 feet of the 2,100 long remnant of the "tote" road would be lost to construction. This includes 60 feet of relatively intact road bed and 210 of trail and more modern access road.		About 210 feet of trail and a more modern road at the extreme west end of the "tote" road would be lost. Less than 60 feet of the intact road bed would be impacted.		None	River Encroachment, Loss of Riparian Vegetation, Visual Impacts	None
Indirect Impacts to "tote" road	Build alternatives would eliminate section of trail and parts of dirt roads now used to access the west end of "tote" road above Berne Memorial Park.				None	None	None
Feasible and Prudent Alternative	Yes	Yes	No	No	No	No/No	No

¹ Assumes reduced facility rebuilt following existing alignment.

² A design for a reduced facility was not developed because a facility narrower than Alternative 4 does not meet design standards used by MDT. The impacts of this avoidance measure was estimated when possible.

G. Measures to Minimize Harm

Several measures which would minimize the impacts of the proposed action on Berne Memorial Park and the "tote" road have been identified for this Section 4(f) Evaluation. These mitigating measures are described below.

1. PERPETUATION OF THE SPRING AT BERNE MEMORIAL PARK

Public use of the spring at Berne Memorial Park would be perpetuated at its present site. However, the access, parking, and internal circulation would be modified to improve traffic safety at the site. The



No Scale
Locations Shown for Some Features Are Approximate

Figure V-5
Berne Memorial Park Area
With Preferred Alternative

proposed development for the spring area **is shown and discussed in Part IV of the EIS.**

2. PROVISION OF REPLACEMENT PARKLAND

The development of replacement parkland in the immediate corridor is proposed as **a mitigating measure** for impacts to Berne Memorial Park. Owners of properties both in and out of Badrock Canyon were contacted **during the** preparation of the Section 4(f) Evaluation to determine the feasibility of acquiring land for use as a public park (2,3,4). Based on these contacts and an examination of potential sites, the most appropriate location for replacement parkland **was determined to be** west of Badrock Canyon, near the House of Mystery.

In July, 1990, **actions were initiated** to acquire or option private lands near the House of Mystery and adjacent to the Flathead River. A Categorical Exclusion which considered the environmental effects of acquiring this property was approved by FHWA on September 4, 1990. Copies of the document are on file in Helena. The location of the replacement area is shown in **FIGURE V-6**. This property was selected because:

- the site's location would not require users to cross US 2 to access the river,
- the area is near the original Berne home site, and
- safe approaches to the replacement area can be developed.

On January 13, 1992, Joseph and Marguerite Hauber signed a Right-of-Way Agreement for the purchase of 38.108 acres of property surrounding the House of Mystery. This early acquisition ensures the property is available for use as replacement parkland if and when the project is constructed. Approximately 9 acres of the property would be developed as replacement parkland.

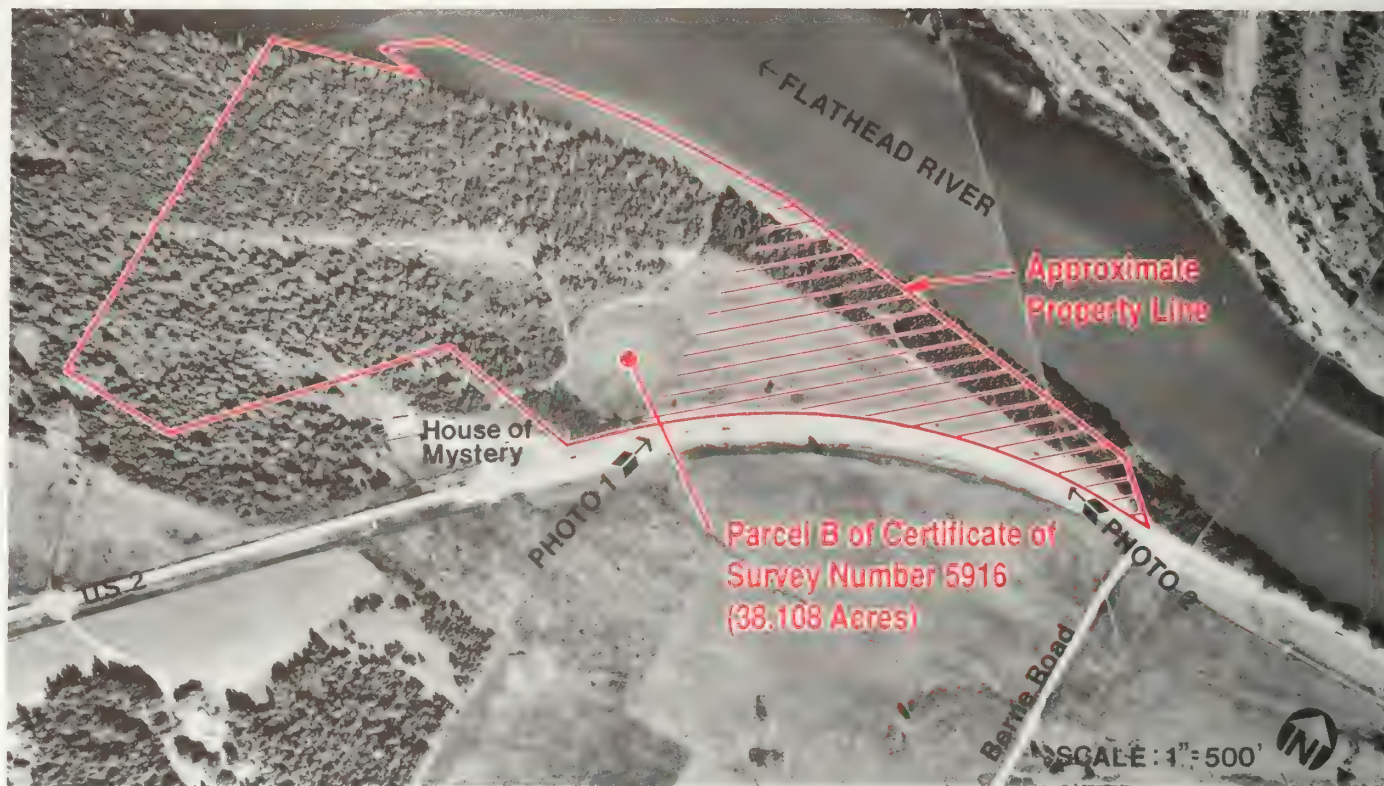
A cultural resources survey for the replacement parkland and the new right-of-way area for Berne Road **was conducted** during October, 1991 as a supplement to the cultural resources survey of the US 2 corridor performed by Historical Research Associates in 1989.

The historical and natural exhibit signs **would be relocated** to the replacement parkland. The existing format of these signs (large, wooden hanging signs) may be changed to conform with the overall design concept for the area. Smaller, low-level signs geared to pedestrian viewing may be suitable to the new area so views of the river or surrounding terrain would be unobstructed. If a change in the format of the signs occurs, the information on the new signs would be similar to that contained on the existing signs.

Initial contacts with **members of the** Berne family indicated that relocation of the park would be acceptable if the new site continues to commemorate the Berne brothers (5). Prior to construction of the project, the family would be contacted to determine the most appropriate way this can be accomplished. Consideration will be given to adding another exhibit sign describing the role these early residents played in the settlement of the upper Flathead Valley. Advance signing on US 2 would identify the replacement area as a historic site.

The proposed replacement parkland (shown in **FIGURE V-7**) would consist of a two-way circulation loop with controlled approaches on US 2. Parking areas for automobiles and RV's will be provided near the exhibit locations. The alignment of Berne Road would be modified to allow for construction of a four-way approach at the east entrance to the replacement park. Landscaping for the site will be **identified** during the design of the project. Maintenance of the roadside area will be the responsibility of **highway maintenance personnel**.

Proposed Replacement Parkland Area



Area Proposed for Development of a New River Access and Historical Exhibit.

N 1/2 Sec. 11, T30N, R20W



Photo 1 Looking northeast across proposed replacement parkland near the House of Mystery.



Photo 2 Looking northwest across replacement parkland acquired from Joseph Hauber.

Figure V-6
Location and Photo of Replacement Parkland Area

3. DEVELOPMENT OF A RIVER ACCESS SITE

A new river access on the Flathead River **would be jointly developed** with the U.S. Forest Service (USFS) in conjunction with the replacement parkland discussed above. This action presents an opportunity to enhance recreational use of the Flathead River for the public. The USFS has indicated that the replacement parkland site is the most suitable area along this reach of the Flathead for development of a river access. Development at this location would provide river accesses that are conveniently spaced for floaters and fishermen on the Flathead River system. The impacts of developing this new recreation site are discussed in Part IV of the EIS.

The facilities initially provided at the river access would include:

- a graveled access road to the parking area and boat ramp,
- a long-term parking area for river users,
- a boat ramp constructed of concrete planks, and a toilet for seasonal use.

A water source would not be developed at the river access. The area would be operated as a "pack-it-in/pack it out" facility to minimize maintenance requirements and costs. The name of the river access site would commemorate the Berne brothers in some manner. A conceptual sketch of the historic site and river access is shown in **FIGURE V-7**. **Note that a design for the new river access has not yet been prepared.**

Although approaches **to the replacement parkland and the river access** would be shared, the river access site would be separated from the roadside exhibits. A barricade would be installed to allow the USFS to control the use of the river access facilities. Natural terrain and vegetation would be used as much as possible to screen parking areas at the site from the highway and river. Maintenance of facilities at the river access would be the responsibility of the Flathead National Forest, Hungry Horse Ranger District.

Highway construction funds would be used to build the river access, however, the maintenance of the facility would be the responsibility of the Hungry Horse Ranger District. The river access would be operated on a seasonal basis like many other USFS recreation sites. A Memorandum of Agreement (MOA) between MDT, FHWA, and the USFS stipulating the conditions for the development, operation, and maintenance of the river access and replacement parkland must be approved by each agency prior to construction of the proposed recreation site. **A copy of the MOA is included in APPENDIX 8.**

Where possible, all facilities at the proposed river access (except the boat ramp) would be designed to **lie** above the elevation of the 100-year floodplain. A survey of the proposed site would be necessary to ensure that floodplains are avoided as much as possible.

4. ACQUISITION OF PRIVATE LANDS IN BADROCK CANYON

The acquisition of some 100 acres of private landholdings within Badrock Canyon **was proposed during the development of the EIS**. This land acquisition would provide the necessary right-of-way for the proposed highway reconstruction and place nearly all of Badrock Canyon in public ownership. Such an action would ensure that incompatible development does not occur along this section of US 2. Recreational opportunities for the public would also be enhanced by opening up **existing** private lands along the Flathead River.

A Categorical Exclusion examining the effects of this acquisition was approved by FHWA on September 4, 1990. **Actions** to secure options or acquire the properties in Badrock Canyon **were initiated** shortly after

the approval of the environmental document. **Negotiations for acquiring private properties in Badrock Canyon have been unsuccessful.** To date, **none** of the private land in Badrock Canyon has been optioned or acquired.

5. REVEGETATION OF RIPARIAN AREAS

Where possible, fill or cleared areas adjacent to the Flathead River **would be revegetated**. The USFS suggested planting disturbed riverside areas with cottonwoods, one of the fastest growing trees in area.

6. MITIGATION FOR IMPACTS ON THE BADROCK CANYON "TOTE" ROAD

The removal of talus material at the base of the west outcrop in Badrock Canyon would eliminate a section of trail that accesses the west end of the Badrock Canyon "Tote" Road. The remaining segment of the "tote" road would end at a point in the west outcrop considerably above the roadside area adjacent to the new highway. A fence or barricade will be installed at an appropriate location near the west end of the "tote" road to prevent pedestrians from this potentially hazardous condition.

The east end of the Badrock Canyon "Tote" Road can be accessed from the hillside above the stone fountain and spring. Access to the "tote" road will still be possible from this location following reconstruction of US 2. A small interpretive marker discussing the construction and use of the old road will be provided for pedestrians and other trail users.

H. Coordination

Coordination efforts were initiated in August, 1989 when a letter of intent was issued to federal, state, and local agencies and private organizations. Comments and information relevant to this project were requested from those receiving the letter of intent.

The proposed action **was coordinated** with the USFS because they are the agency with jurisdiction over the Flathead Wild & Scenic River system, a resource often subject to Section 4(f) protection. Correspondence from USFS regarding Wild & Scenic Rivers in the area (May 5, 1990) is included in Part VI. Correspondence from the Montana FWP, Parks Division about Section 4(f)/6(f) lands (November 24, 1989) and the Flathead Recreational Waterway (July 26, 1990) is also included in Part VI of the EIS.

Contacts were made with members of the Culture Committees for the Blackfeet, Flathead, and Kootenai Tribes in June and July, 1990. A **meeting with a** representative of the Kootenai Culture Committee **occurred on** June 26, 1990 **during a visit to** Badrock Canyon to review the potential impacts of the project. A copy of a memo describing coordination with the Indian Cultural Committees is on file in Helena.

The Cultural Resources Survey for the project **was transmitted** to SHPO for review comments May, 1990 and in October, 1991. SHPO comments on the document were received in June, 1990 and in October 1991. Copies of these comments are contained in Part VI.

Following the circulation and review of the Draft EIS/Section 4(f) Evaluation, comments were received from the U.S. Department of the Interior, Office of the Secretary. The Department of the Interior concurred that there are no feasible and prudent alternatives to the use of property at Berne Memorial Park. The agency also concurred with the measures to minimize harm outlined in the Draft Section 4(f) Evaluation. A copy of this correspondence is included in Part VI of the Final EIS.

Other coordination with agencies and individuals with interests in the proposed action is included in Part VI of the EIS.

I. Concluding Statement

Based upon the above considerations, there is no feasible and prudent alternative to the use of land from Berne Memorial Park or the Badrock Canyon "Tote" Road (24FH583) and the proposed action includes all possible planning to minimize harm to each property resulting from such use.

References for Part V

1. Coalition for Canyon Preservation, in correspondence dated February 28, 1990.
2. Hauber, Joseph, corridor landowner, in personal communication on May 11, 1990.
3. Simpson, James, Trustee, Simpson Family Trust, in correspondence dated April 16, 1990.
4. Clark, Allen F. and Katherine S., Trustees, Clark Living Family Trust, in correspondence dated April 16, 1990.
5. Simpson, James, Trustee, Simpson Family Trust, in a personal communication on April 19, 1990.

Part VI: Comments and Coordination

A. Early Coordination

Recognizing that this project interests many people in the Columbia Falls and Hungry Horse areas, several opportunities for comment were provide at early stages **of the project** and throughout the development of the EIS. The major public notices, meetings, and opportunities for comments are listed below.

- Notice of Intent to Conduct an EIS **was** published in the *Federal Register* on July 20, 1989. (Included on page **VI-16**)
- A Letter of Intent **was** issued to interested public agencies, organizations, and individuals on August 21, 1989. (Included on page **VI-17**)
- A scoping meeting to identify major issues and discuss generalized design alternatives **was** held on October 3, 1989.
- An informational meeting to discuss design alternatives and preliminary findings of EIS analyses **was** held on June 26, 1990.
- An "open forum" workshop and Highway Location and Design Public Hearing were held in Columbia Falls, Montana at the North Valley Community Center on December 10, 1992.
- An "open house" informational meeting to discuss design modifications to the preferred alternative made as a result of comments received on the Draft EIS and provide new information about the project was held on November 9, 1994.

B. Meetings With Community Groups

There were no special meetings held with community groups affected by the proposed action. **The EIS consultant and an MDT representative** met with a member of the Kootenai Culture Committee on June 26, 1990 in Badrock Canyon to determine if the proposed action would affect culturally sensitive sites. Members of the Blackfeet and Flathead Tribes were invited to the meeting but did not attend. **Follow-up contacts and requests for comments on the proposed action were made with the other two Tribes.** A memo describing coordination efforts with Indian Cultural Committees on file in Helena.

C. Scoping Meetings

Scoping meetings were held on October 3, 1989 at the High School Auditorium in Columbia Falls, Montana. The primary purpose of the meetings was to identify issues and concerns that are important to the proposed action.

The meetings were advertised in three local newspapers including the ***Kalispell Weekly News***, the ***Daily Interlake***, and the ***Hungry Horse News***. The newspaper advertisements consisted of bordered notices placed in the classified sections of each paper two weeks prior to the meeting. **Notices of the meeting were sent** to more than 100 agencies and individuals with interests in the project.

A workshop session, held from 6:00 to 7:30 p.m., gave the public an opportunity to meet those responsible for preparing the EIS and to informally discuss project concerns with them. Approximately 20 people

attended the one and one-half hour long session. Questions and comments at the workshop focused on:

- the time schedule for the project
- pedestrian and traffic safety in Columbia Heights
- impacts to Berne Memorial Park
- impacts of right-of-way acquisition in Columbia Heights
- the redesign of the US 2/FAS 206 intersection.

Forms were provided for workshop participants wishing to submit written comments on the proposal.

The evening scoping meeting began at 7:30 p.m. and was attended by about 55 people. The meeting included opening remarks followed by a brief presentation **by the EIS consultant** describing the purpose of the proposed action and the EIS process. The presentation also provided a tentative schedule for the EIS and summarized issues potentially important to the proposed project. An information packet with a preliminary list of issues generated **through contacts with** other agencies was made available to the public. After the presentation, comments were received from the audience. Forms for submitting written comments on issues and design alternatives were provided at the meeting.

A total of 142 written comments were received as a result of the scoping meetings. The majority of the written comments (101 of 142 comments) on the proposed action were generated through efforts of the Coalition for Canyon Preservation (CCP), a local environmental group. The group provided preprinted comment forms and urged its members and other affiliates to comment on specific issues and support two-lane design alternatives. The CCP forms were developed to closely resemble the forms provided **at the scoping meeting**. **A total of 81** of the group's preprinted scoping comment forms **were received** through June, 1990. Additional letters and/or postcards, often containing remarks similar to those on the preprinted forms, were received from 20 of the individuals who also submitted scoping forms supplied by the CCP. Twenty comments were received on the preprinted forms provided **at the scoping meeting**.

Copies of the comments received following the October meeting and before an informational meeting held in June, 1990 are on file in Helena.

1. DEVELOPMENT OF PROJECT ISSUES

The 142 initial comments received **after the scoping meeting** were reviewed and used to identify the issues important to the proposed action. The comments submitted by the public were analyzed and categorized into broad issues for consideration in the EIS or supplementary studies. Specific concerns relating to each broad issue were then grouped for further analysis.

The issues and concerns generated through the initial scoping activities were reviewed for their importance to the proposed action. This evaluation was necessary to determine the issues that should be examined in detail by the EIS. Less important issues were addressed briefly in appropriate sections of the document.

The ranking of project issues was based on the following considerations:

- requirements to address specific impact categories,
- the number of public comments received on the issue, and

- the strength of convictions raised in each comment.

Equal consideration was given to the previously mentioned factors during the ranking of issues. Since many issues are subjective by nature, it is difficult if not impossible to rank them without incorporating some degree of subjectivity into the process.

2. MAJOR PROJECT ISSUES

The following table identifies the major issues for the proposed reconstruction of US 2 between Columbia Heights and Hungry Horse. **TABLE VI-1** summarizes the origin of the issues, the number of comments received, and how the EIS addresses each item. Please note that this summary is based on the 142 comments received after the initial scoping meetings. Major comments received after the June 26, 1990 meeting are summarized in Section D. of this Part. The scope of the EIS was subsequently revised to address these comments.

D. Comments on Alternatives

1. MEETINGS ON ALTERNATIVES

A secondary purpose of the October 3, 1989 scoping meeting was to present possible design alternatives and receive comments about the type of highway that should be constructed in the project corridor. This meeting provided an opportunity to present a range of possible designs for the highway and solicit comments from the audience about them. A handout describing the major features of each general highway design and comment forms were offered to the public. The handout contained a drawing of the types of highway designs being considered and requested comments on the features needed for this section of US 2.

As indicated previously, 142 comments **were received** following the scoping meetings on the proposed action. Most comments specified a preference for a design alternative in addition to important issues. Many of the public comments also suggested considerations that should be included in the project's design. The considerations mentioned most often were:

- reconstructing the highway through Badrock Canyon to provide a lower level of service in the design year,
- reducing travel speeds in Columbia Heights and Badrock Canyon,
- ensuring that the preferred design is the most cost-effective of the alternatives,
- improving winter driving conditions in the corridor,
- providing a facility that will safely accommodate bicyclists and pedestrians, and
- providing a design that is sensitive to the **features** of Badrock Canyon.

Alternatives for the proposed action were also presented to the public at an informational meeting held on June 26, 1990 at the High School Auditorium in Columbia Falls. Some 40 people attended the meeting and 16 persons presented oral comments. MDT recorded the proceedings of this meeting for its files.

A total of 86 written comments were submitted after the June meeting. Twenty-five of the comments were received on preprinted forms distributed by the CCP which supported for two-lane designs (Alternative 3 in Columbia Heights and Alternative 4 in rural areas). The CCP form only allowed respondents to select

**TABLE VI-1
SUMMARY OF MAJOR PROJECT ISSUES**

GENERAL TOPIC OF ISSUE	COMMENTS RELATING TO ISSUE	★	SOURCE OF COMMENT		IMPORTANCE VERY(1) ← ⇒ NOT(5)	HOW WILL ISSUES/COMMENTS BE ADDRESSED IN EIS?
			PUBLIC	AGENCY		
1. IMPACTS TO BERNE MEMORIAL PARK	Implement Section 4(f) at Berne Memorial Park	18	Written Comment		1	Section 4(f) Evaluation will Supplement EIS
	Preserve Berne Memorial Park	67	Scoping Comment Written Comment	MDT 8/21/89	1	Preliminary Designs Section 4(f) - Impacts Section 4(f) - Avoidance Alternatives
	Perpetuate Water Source at Berne Park	25	Scoping & Written	MDT 8/21/89	2	Section 4(f) - Proposed Action
	Relocate Park and Water Source?	0		MDT/FHWA 8/21/89	2	Section 4(f) - Avoidance Alternatives Section 4(f) - Mitigation
	Consider Cultural Significance of Park	7	Written Comment		2	Section 4(f) - Proposed Action
2. RELOCATIONS, RIGHT-OF- WAY & UTILITY IMPACTS	Improve Maintenance of Park	2	Scoping Comment	MDT 8/21/89	4	Section 4(f) - Proposed Action
	Continue Access to "Fisherman's Rock"	1	Scoping Comment		4	Section 4(f) - Impacts
	Park Not Important	1	Written Comment		5	Section 4(f) - Properties
	Are Residential Relocations Necessary?	0		MDT 8/21/89	1	Preliminary Designs & Cross-Sections
	RW Effects on Commercial Properties in Columbia Heights	0	Scoping Workshop		1	MDT RW Cost Estimates Preliminary Designs/Alignments Preferred Alternative Discussions
3. DESIGN CONSIDERATIONS	Effects on BPA Power Lines	0	Scoping Meeting	MDT 8/21/89 BPA 9/26/89	3	Preliminary Designs Will Determine Impacts MDT Utility Relocation Cost Estimates Coordination with BPA
	Costs of Utility Relocations	0	Scoping Meeting		3	MDT Utility Relocation Cost Estimates Coordination with Utility Companies
	Use "Cost-Effective Design Methodology" (As a Reasonable Alternative)	42	Scoping Meeting Written Comment		1	Evaluation of Alternatives Alternatives - Proposed Action
	Prepare Cost-Benefit Analysis	21	Scoping & Written		1	Evaluation of Alternatives
	Traffic Control Plan for Construction	2	Written Comment Scoping Workshop	MDT 8/21/89	2	Construction Impacts Preliminary Designs
	Improve Winter Driving Conditions Through Design	7	Scoping Workshop Written Comment		2	Preliminary Designs Accident History/Traffic Safety Discussions

★ Indicates number of times specific comment was mentioned in scoping forms or letters. Several issues were identified in most scoping correspondence.

TABLE VI-1
SUMMARY OF MAJOR PROJECT ISSUES

GENERAL TOPIC OF ISSUE	COMMENTS RELATING TO ISSUE	★	SOURCE OF COMMENT		IMPORTANCE VERY(1)↔ NOT(5)	HOW WILL ISSUES/COMMENTS BE ADDRESSED IN EIS?
			PUBLIC	AGENCY		
3. DESIGN CONSIDERATIONS (CONTINUED)	Design for Lower Level of Service	6	Written Comment		3	Capacity/Level of Service Discussions
	No Need for/Oppose Four-Lane Road	46	Written Comment		3	Capacity/Level of Service Discussions
	Traffic Counts Not Representative	21	Written Comment		3	Traffic Discussions
	Concerned About Cost	2	Written Comment		3	Evaluation of Alternatives
	Use Left Turn Lanes Where Needed	7	Scoping Meeting Written Discussion		3	Capacity/Level of Service Discussions Preliminary Designs
	Design & Location of New Bridge Over the South Fork of the Flathead	1	Scoping Comment Written Comment		3	Preferred Alternative Discussions MDT Bridge Bureau Guidance
	Reconstruct US 2/FAS 206 Junction	1	Scoping Meeting	MDT 8/21/89	3	Preliminary Designs of Intersection
	Reconstruct Waigh Station in Columbia Heights?	2	Scoping Meeting Written Comment	MDT 8/21/89	4	MDT Agency Decision Preferred Alternative Discussions
	Develop Alternate Route Entirely	3	Written Comment		5	Identification of Reasonable Alternatives
	Construct Tiered Road Through Canyon	0	Scoping Meeting		5	Identification of Reasonable Alternatives
4. TRAFFIC SAFETY	Want Safest Road Possible	8	Written Comment		2	Traffic Safety Comparisons of Alternatives
	Reduce Speeds in Canyon or Columbia Heights	22	Scoping and Written		2	MDT Traffic Unit Determination
	Bus Stop and Crosswalk Provisions for School Children in Columbia Heights	3	Scoping and Written		3	MDT Traffic Unit Determination
	Consider Needs of Pedestrians and Bicyclists	10	Written Comment		3	Pedestrian/Bicyclist Provisions Discussion Preferred Alternative Discussions
	Provide Separate Facilities for Pedestrians and Bicyclists	6	Scoping and Written		4	Pedestrian/Bicyclist Provisions Discussion Criteria for Preliminary Designs
	Develop Limited Access Control	2	Written Comment	MDT 8/21/89	4	MDT Access Control Plan Preliminary Designs
	Left Turns onto Highway Difficult	1	Scoping Comment		5	Preliminary Designs Will Consider
	Disruption to Wildlife Travel Corridors	53	Written Comment		1	OEA Report Environmental Consequences Discussions
5. EFFECTS ON FISH & WILDLIFE						

★ Indicates number of times specific comment was mentioned in scoping forms or letters. Several issues were identified in most scoping correspondence.

TABLE VI-1
SUMMARY OF MAJOR PROJECT ISSUES

GENERAL TOPIC OF ISSUE	COMMENTS RELATING TO ISSUE	★	SOURCE OF COMMENT		IMPORTANCE VERY(1) = ⇒ NOT(5)	HOW WILL ISSUES/COMMENTS BE ADDRESSED IN EIS?
			PUBLIC	AGENCY		
5. EFFECTS ON WILDLIFE & FISH (CONTINUED)	Effects on the Northern Continental Divide Grizzly Bear Ecosystem (NCOE)	47	Written Comment		1	Biological Assessment OEA Report Coordination with the USFWS
	Project's Effects on Threatened or Endangered Species	14	Written Comment	USFWS 8/22/89	2	Biological Assessment OEA Report Coordination with the USFWS
	Impacts to Common Wildlife Species	19	Written Comment	FWP 9/18/89	2	OEA Report Environmental Consequences Discussions
	Preserve Riparian Habitat (River and Bald Eagle Habitat)	29	Written Comment		2	OEA Report Environmental Consequences Discussions
	Wetlands Impacts	1		EPA 7/26/89 USFWS 8/22/89	2	OEA Report Agency Reviews/Consultations
6. IMPACTS TO THE FLATHEAD RIVER	Impacts of River Encroachments	28	Written Comment	COE 8/9/89	2	Preliminary Designs COE, FWP Consultations Environmental Consequences Discussions
	Floodplain Impacts	1	Scoping Meeting Written Comment	COE 8/9/89	3	Preliminary Designs COE Consultations Affected Environment Discussion Environmental Consequences Discussions
	Impacts to Recreational Use	0		FWP 9/18/89	3	Environmental Consequences Discussions Preferred Alternative Discussions
	Maintain Corridor's Scenic Qualities	41	Written Comment		1	Visual Resources Discussion Environmental Consequences Discussions
	Protect Trees Along River	51	Written Comment		1	Preferred Alternative Discussion Mitigating Measures Discussion
7. VISUAL IMPACTS & AESTHETICS	Apply "Scenic Enhancement Program"	31	Written Comment		3	Mitigating Measures Discussion
	Incorporate Scenic Turnouts	7	Written Comment		3	Mitigating Measures Discussion
	Don't Blast Rock in Canyon	8	Scoping Meeting Written Comment		4	Preliminary Designs & Cross-Sections Will Identify Excavation Required for Alternatives
	Presence of Historic and Prehistoric Properties in Corridor	5		MDT 9/27/89 USFS 8/21/89	3	INTA Cultural Resources Survey Section 4(f)- Properties, Impacts

★ Indicates number of times specific comment was mentioned in scoping forms or letters. Several issues were identified in most scoping correspondence.

**TABLE VI-1
SUMMARY OF MAJOR PROJECT ISSUES**

GENERAL TOPIC OF ISSUE	COMMENTS RELATING TO ISSUE	★	SOURCE OF COMMENT		IMPORTANCE VERY(1) = ⇒ NOT(5)	HOW WILL ISSUES/COMMENTS BE ADDRESSED IN EIS?
			PUBLIC	AGENCY		
8. IMPACTS TO CULTURAL RESOURCES (CONTINUED)	Native American Significance of Badrock Canyon	0	Written Comment	MDT 9/27/89	3	HRA Cultural Resources Report Section 4(f) - Properties Coordination with the Tribal Culture Committees
	Follow CFR Requirements for EIS/4(f)	2	Written Comment		1	Legal Sufficiency Reviews by MDT/FHWA
9. OTHER TOPICS	MDT and Consultant Orchestrating Biased EIS	1	Written Comment		1	Legal Sufficiency Reviews by MDT/FHWA
	Is EIS Necessary for Columbia Heights-Badrock Canyon Section of Project?	1	Written Comment		5	Purpose and Need for Action Description of Proposed Action
	Project Will Affect Tourist Expectations	1	Written Comment		3	Socio-Economic Impacts

★ Indicates number of times specific comment was mentioned in scoping forms or letters. Several issues were identified in most scoping correspondence.

SUMMARY OF COMMENTS RECEIVED		ORIGIN OF SCOPING COMMENTS	
Total Number of Scoping Comments Received by MDT	142	Flathead County	78
MDT Distributed Comments Forms Received (Issues and Alternatives)	20	Elsewhere in State of Montana	30
Privately Distributed Comment Forms Received (Issues and Alternatives)	81	Other States	33
Letters With Comments	41	Canada	1

two-lane alternatives and did not list the other alternatives as options for the proposed action. Nine individuals who submitted CCP forms, also submitted postcards supporting the two-lane alternatives. Eight comments on alternatives were received on preprinted forms provided at the **June, 1990** meeting. Of the comments that specified an alternative, 38 supported two-lane designs, 3 supported 4-lane designs, and one supported no-action.

The remainder of the comments related to issues or specific design features for the new traffic facility. Of concern to most individuals was the need for reduced travel speeds through Columbia Heights and Hungry Horse, pedestrian and bicyclist safety and facilities in the corridor, the need for reconstructing the US 2/FAS 206 intersection, and the potential impacts of the project on Badrock Canyon and Berne Memorial Park.

Thirty-three of the 86 comments called for the agencies involved in the preparation of the EIS to undertake a study of the Flathead River downstream of Hungry Horse for possible inclusion in the Flathead Wild and Scenic River system. Other materials submitted included three completed surveys forms from users of the spring at Berne Memorial Park and three completed survey forms about recreational use in the corridor and the potential visual impacts of features related to the highway. **These surveys were privately initiated and distributed.**

Copies of these comments are on file in Helena. Note that a listing of **written public comments received up to the publication date of the Draft EIS** and the type of comment received is included in APPENDIX 9.

2. SUMMARY OF PUBLIC COMMENTS ON ALTERNATIVES

TABLE VI-2 contains a summary of all written comments from the public about the alternatives considered for the proposed action. The table summarizes all comments pertinent to the alternatives received to date, including those received prior to the June, 1990 meeting. It should be noted that not all comments specified a particular design alternative, therefore, a more general assessment was made to show support for two-lane alternatives and four-lane designs.

TABLE VI-2 SUMMARY OF PUBLIC COMMENTS ON ALTERNATIVES	
Support 4-lane alternatives	14
Support 2-lane alternatives	135
No-Action	9
Alternative Not Specified or Issues Only	66
Other: 30' wide 2-lane	1
Tunnel	1
Close US 2	1
Use Alternate Route	1
Tiered Road	1

As indicated previously, a substantial amount of support for two-lane design options was generated through efforts of the CCP. A total of 106 comments about alternatives **were received** on preprinted forms provided by the group and many letters or postcards from its affiliates. The CCP's success in generating comments supporting two-lane alternatives skewed the results shown in **TABLE VI-2**.

E. Public Agency Coordination

1. COOPERATING AGENCIES

Several federal agencies were invited to be cooperating agencies for this project because of their jurisdiction over elements of the EIS or special interests in the project area. The agencies that were contacted included:

U.S. Department of Agriculture, Forest Service, Flathead National Forest (7/28/89)

U.S. Department of the Army, Corps of Engineers (8/9/89)

U.S. Department of the Interior, Fish and Wildlife Service (7/20/89)

U.S. Department of the Interior, National Park Service, Glacier National Park (7/31/90)

U.S. Environmental Protection Agency (7/26/89)

Letters from each of these agencies are included on pages **VI-18 through VI-20**.

The U.S. Fish and Wildlife Service and the Environmental Protection Agency declined the opportunity to participate as cooperating agencies for the EIS. However, the agencies did express their desire to provide review comments on the document.

2. FEDERAL AND STATE AGENCIES

Comments from agencies with interests in the proposed action were obtained as a result of early coordination and through direct requests for comments. The agencies that responded with comments are listed below. Pertinent comments are included in the letters that follow on pages **VI-21 through VI-50**. These letters, listed on the following pages by agency, have been placed in chronological order for convenience. Each cooperating agency was given the opportunity to review preliminary versions of this Draft EIS. Comments from the agencies are included on pages **VI-45 through VI-48**.

FEDERAL AGENCIES

U.S. Department of Agriculture, Forest Service, Flathead National Forest, U.R. Morgan for Allen L. Christophersen, District Ranger, Hungry Horse Ranger District (5/4/90)

U.S. Department of Agriculture, Forest Service, Region 1, James A. Lawrence for John M. Hughes, Acting Regional Forester, Missoula (1/8/92)

U.S. Department of Agriculture, Forest Service, Flathead National Forest, Allen L. Christophersen, District Ranger, Hungry Horse District (3/12/91)

U.S. Department of Agriculture, Soil Conservation Service, Bozeman, Richard J. Gooby, State Conservationist (9/5/89)

U.S. Department of Agriculture, Soil Conservation Service, Kalispell, Rich Pettersen, District Conservationist, (1/19/90) and Form AD-1006, (5/24/90)

Department of Energy, Bonneville Power Administration, Upper Columbia Area, Spokane, WA, William A. Freeland, Area Environmental Coordinator (9/26/89 and 6/26/90)

Department of Energy, Bonneville Power Administration, Portland, Oregon, Leslie Kelleher, Environmental Specialist, letter to Kevin Hart, Montana Department of Natural Resources and Conservation, Energy Division (11/19/92)

U.S. Department of the Interior, Fish and Wildlife Service, Helena, Montana State Office, Kemper M. McMaster, Acting State Supervisor (8/22/89)

U.S. Department of the Interior, Fish and Wildlife Service, Helena, Fish and Wildlife Enhancement, Kemper M. McMaster, Field Supervisor, Montana/Wyoming Office (1/4/91)

U.S. Department of the Interior, Fish and Wildlife Service, Helena, Montana State Office, Dale Harms, State Supervisor (11/4/91 and 3/24/92)

U.S. Department of Transportation, Federal Highway Administration, Montana Division, Duane C. Lewis, Assistant Division Administrator (12/20/91)

U.S. Environmental Protection Agency, Montana Office, John F. Wardell, Director (5/21/92)

STATE AGENCIES

Montana Department of Commerce, Aeronautics Division, Helena, Barbra Proulx for Gerald C. Burrows, Chief, Airport/Airways Bureau (9/7/89)

Montana Department of Fish, Wildlife & Parks, Fisheries Division, Helena, Stream Protection Coordinator (9/18/89)

Montana Department of Fish, Wildlife & Parks, Parks Division, Helena, Mary Ellen Poole, Administration Officer I, Operations Bureau (11/24/89)

Montana Department of Fish, Wildlife & Parks, Parks Division, Helena, Arnie Olson, Administrator (7/26/90)

Montana Department of Highways, Environmental Section, correspondence to Marcella Sherfy, State Historic Preservation Officer from Edrie L. Vinson (7/25/90)

Montana Department of Highways, Environmental Section, correspondence to Marcella Sherfy, State Historic Preservation Officer from Edrie L. Vinson (8/15/90)

Montana Department of Highways, Environmental Section, Correspondence to Marcella Sherfy, State Historic Preservation Officer from Edrie L. Vinson (8/10/90)

Montana Department of Highways, Environmental Section, Correspondence to Marcella Sherfy, State Historic Preservation Officer from Edrie L. Vinson (8/10/90) with SHPO concurrence (8/20/90)

Montana Department of Highways, Environmental Section, Correspondence to Marcella Sherfy, State Historic Preservation Officer from Edrie L. Vinson (8/1/91)

Montana Department of Highways, Environmental Section, Correspondence to Marcella Sherfy, State Historic Preservation Officer from Edrie L. Vinson (10/7/91)

Montana Department of Health and Environmental Sciences, Air Quality Bureau, Helena, Warren Norton, Environmental Specialist (8/24/89)

Department of Natural Resources and Conservation, Energy Division, Kevin Hart, Environmental Program Manager, (12/2/92)

Department of Natural Resources and Conservation, Engineering Bureau, Floodplain Management Section, Helena, John R. Hamill, Supervisor (3/21/90)

Montana Department of Natural Resources and Conservation, Helena, Jim Bond, Information Officer (10/31/89)

State Historic Preservation Office, Montana Historical Society, Helena, Mary McCarthy, SHPO Intern, (9/11/89)

State Historic Preservation Office, Montana Historical Society, Helena, Katherine M. Huppe, Historical Survey Reviewer, (6/13/90)

State Historic Preservation Office, Montana Historical Society, Helena, Katherine M. Huppe, Historical Survey Reviewer (7/2/91)

State Historic Preservation Office, Montana Historical Society, Helena, Mark F. Baumler, Ph.D., Deputy SHPO/Archaeologist (10/25/91)

State Historic Preservation Office, Montana Historical Society, Helena, Marcella Sherfy, State Historic Preservation Officer (12/17/91)

COOPERATING AGENCY COMMENTS ON PRELIMINARY DEIS

U.S. Department of the Interior, National Park Service, Glacier National Park, West Glacier, MT, for H. Gilbert Lusk, Superintendent (12/19/90).

U.S. Department of Agriculture, Forest Service, Flathead National Forest, Hungry Horse Ranger District, Hungry Horse, Allen L. Christophersen, District Ranger (3/12/91).

Department of the Army, Corps of Engineers, Omaha District, Planning Division, Omaha, Nebraska, Gerard E. Mick, Chief, Environmental Analysis Branch (3/28/91).

F. Agency Comments on the Draft EIS/Section 4(f) Evaluation

The following section includes comments on the Draft EIS/Section 4(f) Evaluation submitted by federal, state, and local agencies. Agency comments were subsequently reviewed and responses were drafted when appropriate. Comments generally suggested corrections to text, or technical data and sometimes requested that materials be added to the document. Practical and reasonable criticism was incorporated into the Final EIS in an effort to improve the overall quality of the document. Modifications to the Final EIS are identified in the responses that accompany agency letters.

After the comment letters from agencies were reviewed, preliminary responses to substantive comments on the Draft EIS were prepared. Correspondence containing the preliminary responses were sent to each agency for review. Follow-up letters from the agencies were requested to determine if the responses adequately address project concerns expressed by each agencies. Copies of these follow-up letters have been included in this Part of the EIS. Note that not all agencies submitted responses to the follow-up letters.

1. COOPERATING AGENCY COMMENTS AND RESPONSES

All cooperating agencies for this EIS submitted written comments on the Draft EIS. These letters along with appropriate responses are included on pages VI-51 through VI-59 of the Final EIS. The following letters were received from cooperating agencies after publication of the Draft EIS/Section 4(f) Evaluation:

U.S. Department of the Army, Corps of Engineers, Omaha District, Richard D. Gorton, Chief, Environmental Analysis Branch, Planning Division (9/2/92) and (Follow-up 8/4/93)

U.S. Department of Agriculture, Forest Service, Flathead National Forest, Joel D. Holtrop, Forest Supervisor, (12/15/92) and (Follow-up 8/13/93)

U.S. Department of the Interior, Office of the Secretary, Jonathan P. Deason, Director, Office of Environmental Affairs, Washington, D.C. (9/21/92)

2. OTHER AGENCY COMMENTS AND RESPONSES

The following agencies offered comments on the proposed improvements to US 2 between Columbia Heights and Hungry Horse:

U.S. Environmental Protection Agency, Montana Office, Eric W. Finke for John F. Wardell (9/10/92) and (Followup 8/17/93)

Montana Department of Health and Environmental Sciences, Air Quality Bureau, Helena, Robert Raisch for Gretchen Bennitt, PM-10 SIP Coordinator (9/15/92) and (Follow-up 7/29/93)

Montana Department of Health and Environmental Sciences, Water Quality Bureau, Environmental Sciences Division, Helena, Abe Horpestad, Supervisor, Technical Studies and Support (7/8/93) and (3/23/94)

Flathead Regional Development Office, Stephen F. Herbaly, Planning Director, (11/13/92)

These comments can be found on pages VI-60 through VI-79 of this Part.

G. Public Comments on the Draft EIS/Section 4(f) Evaluation

1. WRITTEN PUBLIC COMMENTS AND RESPONSES

The Draft EIS/Section 4(f) Evaluation was made available for public review in late July, 1992. The initial review period for the Draft EIS/Section 4(f) Evaluation was extended until December 21, 1992 at the request of some members of the public. Written comments were generally accepted on the document through December 21, 1992 although some substantive comments were received well after this date. Written comments on the Draft EIS/Section 4(f) Evaluation along with appropriate responses are included on pages VI-80 through VI-184 of the Final EIS. Necessary modifications to the Final EIS are identified in the responses that accompany written comments.

2. PUBLIC DESIGN AND LOCATION HEARING

An "open forum" Highway Location and Design Public Hearing was held in Columbia Falls, Montana at the North Valley Community Center on December 10, 1992. The hearing began at 7:00 p.m. and lasted until about 9:30 p.m. An "open forum" workshop was also held between 1:30 and 4:30 p.m.

on December 10 at the center. The purpose of both sessions was to receive oral and written comments from the public on the Draft EIS/Section 4(f) Evaluation and issues relating to the proposed improvements to US 2 between Columbia Heights and Hungry Horse.

The afternoon workshop session provided the public with an opportunity to meet one-on-one with agency representatives familiar with the project and offer comments on the proposed highway improvements. The informal afternoon workshop was attended by eight people. Comments made by those attending the session were transcribed by the representatives contacted by members of the public.

The evening hearing began with a brief public presentation by the EIS consultant explaining the purpose of the hearing, important issues, the alternatives considered, the major environmental impacts of proposed improvements to US 2, and measures to mitigate identified impacts. Following the presentation, opportunities were provided for members of the public to make statements to the audience or to comment individually to representatives of agencies involved in the project. Public statements were recorded on tape and one-on-one comments were transcribed onto written comment forms by the agency representatives contacted by the public. The evening hearing was attended by about 75 people. Approximately 15 representatives of MDT, FHWA or other agencies involved in the project were present at the hearing.

A brochure outlining the procedures for making comments at the "open forum" hearing and summarizing the content of the Draft EIS was made available at the afternoon and evening sessions. The brochure also contained a form for submitting written comments on the proposed action or related issues. Information about the right-of-way acquisition process and Relocation Assistance program for affected landowners was made available at the meetings.

3. PUBLIC HEARING COMMENTS AND RESPONSES

As indicated above, those attending the Design/Location hearing were given the opportunity to submit written comments on forms provided at the hearing, to make public statements in front of an audience, or to discuss issues one-on-one with agency representatives familiar with the project. Most members of the public chose to make public statements rather than discuss the project individually with agency representatives. Public statements made at the hearing were tape-recorded and ultimately transcribed along with the engineering presentation made at the meeting.

In accordance with 23 CFR 771.111(h)(2)(vi), a transcript of the hearing and documents showing that a public hearing was held have been submitted to the FHWA. The transcript of the hearing is presented on pages VI-186 through VI-223. Responses to comments made in public statements are also included on these pages. Comments made to agency representatives during one-on-one discussions at the public hearing were transcribed. These comments are included with other written public comments that follow the transcript on pages VI-224 through VI-279.

H. "Open House" Informational Meeting

An "Open House" informational meeting was held on Wednesday, November 9, 1994 at the North Valley Community Center in Columbia Falls. The purpose of the "Open House" was to discuss modifications made to the preferred alternative and make other new information about the project available to the public. No formal presentations were made at the meeting; however, the public was given the opportunity to review displays and meet individually with agency representatives and the EIS consultant to discuss or answer questions about the project. A newsletter outlining design modifications to the preferred alternative, presenting responses to major comments on the Draft EIS, and providing new and relevant information was provided at the meeting.

The afternoon session of the "Open House", attended by about 26 people, began shortly after 1:00 p.m. and concluded about 4:15 p.m. The evening session began about 6:15 p.m. and ended by 9:15 p.m. Attendance during the evening session was estimated to be at least 38 people. Comments heard by agency representatives during the meeting sessions were similar to many comments already made on the project. Comments often focused on the impacts of reconstructing US 2 in Badrock Canyon and requested that the project be designed to avoid impacts on Berne Memorial Park and to avoid the excavation of the west outcrop in the Canyon. Other comments called for more vehicle parking in the proposed turnout for the spring at Berne Memorial Park. Members of the public also wanted to know what the intersection of US 2 and Highway 206 in Columbia Heights would be like and if traffic signals would be provided. Some residents of the project corridor suggested that the alignment of US 2 be shifted northward to reduce right-of-way impacts in the vicinity of Monte Vista Drive. A number of comments supporting the modifications made to the preferred alternative were also heard.

A summary of the November 9, 1994 "Open House" and comments received as a result of the meeting are on file in Helena.

I. Permit Requirements

Based on coordination with regulatory agencies, the following permits must be obtained prior to the construction of the proposed action.

1. WATER-RELATED PERMITS

Section 404 Permit - Under the provisions of Section 404 of the Federal Clean Water Act, any person, agency, or entity, either public or private, proposing a project that will result in the discharge or placement of dredged or fill material into waters of the United States, including wetlands. A permit application must be submitted to the **COE** district regulatory office for review. The EPA also has regulatory review and enforcement functions under the law.

A permit application and supplemental information **must be submitted** to the **COE** for review of: (1) the proposed placement of fill along the banks of the Flathead River opposite Berne Memorial Park; (2) the construction of piers for a new bridge over the South Fork of the Flathead River; and (3) the project's effects on wetlands in the corridor. The type of permit authorization (Nationwide, Regional, or Individual) required from the **COE** depends on the size and scope of the intended project.

Correspondence from the COE (included in APPENDIX 15) indicates that the information presented in the EIS appears sufficient at this time to issue a 404 permit. However, the COE stated that a decision to issue a permit for the proposed action would not be made until after the Final EIS is released and comments on the document have been received.

Section 401 Water Quality Certification - MDHES must certify that any discharges into state waters will comply with certain water quality standards before federal permits or licenses can be granted. The authority for this action comes from Section 401 of the Clean Water Act. This certification must be provided to the **COE** by MDHES prior to the issuance of a Section 404 permit.

NPDES/MPDES Permit - Both the federal and state governments have enacted legislation for the control of pollutants into navigable waters from point sources. The National Pollutant Discharge Elimination System (NPDES) authorizes states to administer this program, thus the Montana Pollutant Discharge Elimination System (MPDES). Involvement with the MPDES on this project would likely be for dewatering of coffer dams. Storm drainage outfalls are considered as point source discharges, but MDHES, has not instituted a permitting process for such discharges at this time.

124 Permit - The Montana Stream Protection Act contains measures to ensure that the fish and wildlife resources of Montana's waters are protected and preserved. The Act requires any agency or subdivision of federal, state, county, or city government proposing a project which may affect the bed or banks of a stream in Montana to submit an application to the FWP. Activities requiring a permit include the construction of new facilities, or the modification, operation, and maintenance of existing facilities that may affect the natural existing shape and form of any stream or its banks or tributaries. MDT is responsible for obtaining this permit.

3A Authorization - The MDHES Water Quality Bureau may authorize temporary exemptions from surface water quality standards for turbidity, total dissolved solids, or temperature. Any person, agency, or entity, both public and private, initiating a short-term activity that may cause unavoidable short-term violations of water quality standards must obtain this authorization prior to beginning construction. The Authorization may be waived by FWP during its review process under the Natural Streambed and Land Preservation Act (310 Permit) or the Stream Protection Act (124 Permit). The Contractor is generally responsible for obtaining this Authorization.

Memorandum of Agreement and Authorization (MAA) - This agreement between MDT and FWP stipulates the provisions that will be used to maintain the quality of streams and fisheries affected by highway-related construction. The MAA is intended to document compliance with the Montana Stream Preservation Act.

Temporary Water Use Permit - Under the Montana Water Use Act, a temporary water use permit will be required if water is needed for dust control or other construction-related purposes. This permit may be obtained by the Contractor from the Montana Department of Natural Resources and Conservation (DNRC) Water Rights Field Office in Kalispell.

Floodplain Development Permit - A floodplain development permit will be required for new construction within designated 100-year floodplains of the Flathead River system. Activities requiring such a permit include road and bridge construction and placement of fill in floodplains. This permit **must be obtained from Flathead County**.

2. OTHER PERMITS

DSL Land Use License - The Montana Department of State Lands (DSL) will require MDT to obtain a land use license and a permanent right-of-way for the new bridge over the South Fork of the Flathead River west of Hungry Horse. An application must be submitted to the DSL Area Land Office in Kalispell for any construction below the low water mark of navigable streams.

Air Quality Permit - The suppliers of asphalt materials and crushed rock needed for construction must have an air quality permit from the MDHES Air Quality Bureau.

Construction Blasting Permit - The Contractor performing any blasting required for the proposed action must be licensed by the Safety Bureau of the Montana Department of Labor and Industry, Workers' Compensation Division. Local fire departments should be notified by the Contractor prior to each blasting occurrence, since they may have a blasting permit system in place or have other safety requirements that must be fulfilled.

Permits for Open Burning - If open burning would occur with the right-of-way clearing activities for the proposed highway improvement project, several permits may be required before such an action can be undertaken. A fire control permit may be required from the Department of State Lands for burning during restricted seasons. Additionally, open burning permits may have to be obtained from both the MDHES Air Quality Bureau and from Flathead County.

City of High Point, possibly bypassing the Town of Jamestown to the south; continuing northeast to Hilltop Road within the City of Greensboro corporate limits for a distance of about 8 miles. The proposed facility can provide a bypass for the Town of Jamestown while also relieving congestion for the existing High Point-Jamestown-Greensboro corridor travel.

Alternatives under consideration include: (1) The "no-build", (2) improve existing facilities, (3) construction an at-grade, partial control of access, multi-lane highway on new location. Incorporated into and studied with the various build alternatives will be design variations of grade and alignment.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. Public meetings and meetings with local officials and neighborhood groups will be held in the study area. The first public meeting will be held in August, 1989. A public hearing will also be held. Public notice will be given on the time and place of the public meetings and hearings. The draft EIS will be available for public and agency review and comment prior to the public hearing. No formal scoping meeting is planned at this time.

To ensure that the full range of issues related to the proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments and questions concerning the proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program)

Robert L. Lee, District Engineer, Raleigh, North Carolina.

[FR Doc. 89-17007 Filed 7-19-89; 8:45 am]

BILLING CODE 4910-22-M

Environmental Impact Statement Flathead County, Montana

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be

prepared for a proposed highway in Flathead County, Montana.

FOR FURTHER INFORMATION CONTACT: Dale Paulson, Environmental and Project Development Engineer, Federal Highway Administration, 301 South Park Street, Drawer 10058, Helena, Montana 59628, Telephone: (406) 449-5310; or Mr. Steve Kologi, Chief, Preconstruction Section, Montana Department of Highways, 2701 Prospect Street, Helena, Montana 59620, Telephone (406) 444-6242.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Montana Department of Highways will prepare an environmental impact statement (EIS) on a proposal to improve U.S. Route 2 (U.S. 2) in Flathead County, Montana. The proposed improvement would involve the reconstruction of the existing U.S. 2 from the junction of Federal Aid Secondary Route 206 (FAS 206), east of Columbia Falls to the west edge of Hungry Horse, a distance of 4.4 miles.

Improvements to the corridor are considered necessary to provide for the existing and projected traffic demand. Also, included in this proposal is the widening or replacement of the existing bridge over the South Fork of the Flathead River, at the east end of the proposed project, and the reconstruction of the U.S. 2/FAS 206 intersection.

Alternatives under consideration include (1) taking no action; (2) widening the existing two-lane highway to four lanes; and (3) replacing the existing facility with a "special design" two-lane highway. Incorporated into and studies with the various build alternatives will be design variations of roadway width, grade, and alignment.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State and Local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. A series of formal scoping meetings will be held in the Columbia Falls area between August and October, 1989. In addition, a public hearing will be held. Public notice will be given of the time and place of the meetings and hearing. The draft EIS will be available for public and agency review and comments prior to the public hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues are identified, comments, and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be

directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program)

Issued on: July 14, 1989.

D.C. Lewis,

Assistant Division Administrator, Montana Division, Helena.

[FR Doc. 89-17048 Filed 7-19-89; 3:45 am]

BILLING CODE 4910-22-M

National Highway Traffic Safety Administration Grant Availability to the States for Projects Implementing School Bus Safety

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Notice of a grant program.

SUMMARY: NHTSA intends to make funds available during fiscal year 1990 to assist the States in implementing school bus safety measures. Funding will be set aside from the Section 402 program, and each State will be eligible for a proportionate share of that funding. To participate in this grant program, a State must submit an application to NHTSA which proposes to extend the funds on one or more of the measures designated by NHTSA to be "effective" or "most effective" in improving school bus safety. This notice solicits applications from the States that are interested in developing and implementing projects under this program.

DATES: Applications must be received by November 1, 1989.

ADDRESSES: A State must submit its application to the NHTSA Regional Administrator serving the Region in which the submitting State is located. All applications submitted should be labeled "School Bus Safety Implementation Project." Interested States are advised that no separate application package exists beyond the contents of this announcement.

FOR FURTHER INFORMATION CONTACT: States should direct all questions concerning the grant program and applications to the NHTSA Regional Administrator having responsibilities for the applicant State. More general inquiries on school bus safety may be directed to Ron Engle, Traffic Safety Program's (NTS-23), National Highway

DEPARTMENT OF HIGHWAYS



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

2701 PROSPECT AVE.

HELENA, MONTANA 59620

August 21, 1989

Subject: F 1-2 (39) 138
Columbia Heights - Hungry Horse
NOTICE OF INTENT

To Whom It May Concern:

The Federal Highway Administration (FHWA) in cooperation with the Montana Department of Highways (MDOH) intends to prepare an environmental impact statement (EIS) on a proposal to improve 4.4 miles of highway located between Columbia Falls and Hungry Horse in Flathead County, Montana

This project is located on U.S. 2 which is a major east-west highway generally paralleling the Montana-Canadian border. The proposed improvement will involve the reconstruction of the existing two-lane highway beginning at the intersection of U.S. 2 and Federal Aid Secondary Route 206 (FAS 206) at Columbia Heights and ending at the west edge of Hungry Horse. The project will also include the reconstruction of the U.S. 2/FAS 206 intersection and the widening or replacement of the existing two-lane bridge over the South Fork of the Flathead River.

Improvements are considered necessary to connect existing four-lane sections at both ends of the project and to accommodate current and projected traffic demands. Alternatives under consideration include (1) taking no action; (2) widening the existing two-lane highway to four lanes; and (3) replacing the existing facility with a "special design" two-lane highway. Incorporated into and studied with the various build alternatives will be design variations of roadway width, grades, and alignment.

In addition to this letter soliciting comments, formal scoping meetings will be held to determine significant issues and concerns. There will be public notice of an upcoming scoping meeting inviting the participation of affected Federal, State and local agencies and other interested parties to help determine

AN EQUAL OPPORTUNITY EMPLOYER

Page 2

significant issues. Other informational meetings will be held during the development of the EIS. Additionally, a public hearing will be held as required for this action. The draft EIS will be available for public and agency review prior to the public hearing. The time and place for all public meetings will be advertised locally.

To ensure that a full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested individuals. Comments or questions concerning this proposed action and the EIS should be directed to:

Mr. Dale Paulson or Mr. Stephen C. Kologi, Chief
Project Development Engineer Preconstruction Bureau
Federal Highway Administration Montana Dept. of Highways
301 South Park Street 2701 Prospect Avenue
Helena, MT 59620
Drawer 10056
Helena, MT 59626
Telephone: (406) 449-5310 Telephone: (406) 444-6242

The attached list indicates those to whom this letter is being sent. If you are aware of any other agencies, groups, or individuals that might be affected or concerned and are not on the list, please contact the above.

Sincerely,

Stephen C. Kologi
Stephen C. Kologi, P.E.
Chief, Preconstruction Bureau

SCK:DMN:kjm

Attachments

cc: T.J. Barnard w/Attach
S.C. Kologi "
J.R. Ricker "
R.R. Newhouse "
R.C. Lajoie "
File



United States
Department of
Agriculture

Forest
Service

Flathead National Forest
1935 Third Avenue East
Kalispell, MT 59901

7/26/89

Reply to: 19507710

Date: JUL 28 1989

RECEIVED

Federal Highway Administration
D. C. Lewis, Assistant Division Administrator
301 S. Park, Drawer 10056
Helena, MT 59628

AUG 14 1989

ROBERT PECCIA
& ASSOCIATES

Dear Mr. Lewis:

The Forest Service supports the improvement of U.S. Highway 2 from Columbia Heights to Hungry Horse. Many of our employees use the facility daily both to get to and from work and during their daily work schedule. Naturally we are interested in the safest possible standard for the road that can be accommodated environmentally. The proposed EIS is the appropriate means to analyze and arrive at the best solution.

There is approximately 1/2 mile of National Forest System land impacted by the 4.4 mile proposal. While 40 CFR Part 1501.6 indicates that we must be a "Cooperating Agency", I am hopeful that our involvement can be minimized due to the press of other priorities. We are prepared to participate in the project as outlined in our Memorandum of Understanding with the Montana Highway Department. This should allow for orderly involvement by our Agency in the planning, location, design, and easement process.

District Ranger Al Christophersen will be the Flathead National Forest contact for this project. He is located at the Hungry Horse District Office (phone 387-5243).

Sincerely,

Mary H. Peterson
for EDGAR B. BRANNON, JR.
Forest Supervisor

cc: Van Natta
HH
Hensler
Peterson
III



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4078

August 9, 1989

REPLY TO
ATTENTION OF

Planning Division

Mr./Ms. D.C. Lewis
Montana Division
Federal Highway Administration
301 South Park Drawer 10056
Helena, Montana 59626

Dear D. C. Lewis:

We have received your letter of July 14, 1989, sent to Mr. Robert McInerney of our Helena office, regarding an EIS for U.S. 2 improvements in Flathead County.

We agree to serve as a cooperating agency for this EIS. Subjects we will need to see addressed include placement of fill in wetlands or other water bodies, subject to Corps Section 10 and Section 404 requirements, and placement of materials within floodways, subject to a review for impacts on floodplains.

Please send notice of meetings and of other developments to Mr. McInerney and to this office.

Mr. Steve Rothe
U.S. Army Corps of Engineers
Omaha District, Planning Division
215 North 17th Street
Omaha, Nebraska 68102

If you have any questions, you can call Mr. Rothe at (402) 221-4579. Thank you for this involvement opportunity.

Sincerely,

Richard D. Gorton
for Richard D. Gorton
Chief, Environmental
Analysis Branch
Planning Division

Act	Info	MAIL ROUTE
		30
		30 Eng. Specialist
		31 Central Plans
		32 Loc. Road Design
		33 Environment
		34 Hydrology
		35 Wetland Design
		36 Trail
		37 Pub. Hearing
		38 Photography
		39 Consultant Design
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UNITED STATES

DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Fish and Wildlife Enhancement
Federal Bldg., U.S. Courthouse
301 South Park
P.O. Box 10023
Helena, Montana 59626

IN REPLY REFER TO:

FWE-61130-BILLINGS
M.17(1)

Mr. D.C. Lewis, Assistant Administrator

Federal Highway Administration

Montana Division

Federal Bldg., U.S. Courthouse

301 S. Park, P.O. Drawer 10056

Helena, Montana 59626

Dear Mr. Lewis:

This responds to your July 14, 1989 letter concerning a proposal by the Federal Highway Administration (FHWA) and the Montana Department of Highways (MDOH) to improve U.S. Route 2 in Flathead County, Montana. The proposed improvement project would involve reconstruction of 4.4 miles of U.S. 2 from the junction of Secondary Route 206, east of Columbia Falls, Montana, to the west edge of Hungry Horse, Montana. Replacement of the existing bridge over the South Fork Flathead River, at the east end of the project, would also be required. Your July 14 letter invited the U.S. Fish and Wildlife Service (Service) to be a formal cooperating agency during preparation of the Environmental Impact Statement (EIS) for the proposed project.

Based on the information contained in your letter and a subsequent telephone conversation between Mr. Dale Paulson of FHWA and Mr. Gary Wood of my staff, we would prefer to decline the invitation to participate as a cooperating agency. However, in as much as the project will constitute a "major construction activity" within the meaning of 50 CFR, Part 402, Interagency Cooperation -- Endangered Species Act of 1973, as amended (Act), it appears appropriate to work closely with you and any non-Federal representative you may designate to conduct informal consultation or to prepare a biological assessment concerning threatened or endangered species. In that regard, we will comment in more detail during the initial project review and EIS scoping period, as outlined in your July 14 letter. Based on the telephone conversation between Messrs. Paulson and Wood, it appears that this response would also likely be the appropriate time to provide you with the listed and proposed threatened and endangered species that may be present in the project area, as required under Section 7(c) of the Act and Section 402.12(c) of the Interagency Cooperation Final Rule.

We appreciate your early letter regarding this proposed project. If you have any questions about this response, please feel free to contact Gary Wood at our Billings Suboffice (PIS: 585-6750).

Sincerely,

Kemper McMaster

Kemper McMaster
Acting State Supervisor
Montana State Office

cc: Steve Kologi, Montana Dept. of Highways (Helena, MT)
Jeff Ryan, Montana Dept. of Highways (Helena, MT)
Larry Lockard, USFWS (FWE-61130-Kalispell)
Suboffice Coordinator, USFWS (FWE-61130-Billings)

JGW/dc/clh

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United States Department of the Interior

NATIONAL PARK SERVICE
GLACIER NATIONAL PARK
WEST GLACIER, MONTANA 59936
(406) 888-5441
FAX: (406) 888-5581



Miller
Payton

IN REPLY REFER TO:

July 31, 1990

Mr. David C. Miller
Planning and Program Development Engineer
Federal Highway Administration
301 South Park
Helena, Montana 59626

Dear Mr. Miller:

Glacier National Park welcomes the opportunity to participate in the development of the Environmental Impact Statement that your agency and the Montana Department of Highways are preparing on the proposed improvements to US 2 between Columbia Heights and Hungry Horse.

The park contact for the Highway 2 project will be Brace Hayden. It is anticipated that both he and Bob Dunkley will provide input into the development of the EIS.

Sincerely,

James A. Lusk
H. Gilbert Lusk
Superintendent

cc: Edrie Vinson



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Ref: 8MO

July 26, 1989

Mr. D.C. Lewis,
Assistant Division Administrator
Federal Highway Administration
Federal Building, Drawer 10056
301 South Park
Helena, Montana 59626

F 1-2 (39)
Re: U.S. Highway 2 EIS

Dear Mr. Lewis:

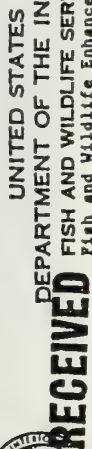
This is in response to your letter of July 14, 1989 inviting EPA to be a cooperating agency with the Federal Highway Administration (FHWA) during the preparation of an Environmental Impact Statement (EIS) for a Federal Aid Highway Project to reconstruct U. S. Highway 2 east of Columbia Falls.

EPA is interested in providing meaningful and early input on environmental issues of concern. We are particularly interested in helping to ensure that proper wetland protection and water quality protection considerations are incorporated into the Highway 2 project. The Agency, however, has resource limitations, which will have to limit the degree and extent of EPA's participation. These resource constraints make it difficult for me to agree to full fledged participation as a cooperating agency during the preparation of the Highway 2 EIS.

I would appreciate the opportunity to discuss possibilities for EPA to have a limited but still meaningful role in this project. Please feel free to call me at FTS 585-5432 if you would like to discuss this.

Sincerely,

John F. Wardell
John F. Wardell, Director
Montana Office



IN REPLY REFER TO: ROBERT PECCIA
FVE-61130 89-60141 JES
M.17(I) (ER 89-60141)

7-2(39)

This letter is provided in response to a July 20, 1989 Federal Register Notice by the Federal Highway Administration (FHWA) concerning your intent to prepare an environmental impact statement for a proposed highway project (U.S. 2 from the junction of Federal Aid Secondary Route 206 [FAS206] east of Columbia Falls, Montana, to the west edge of Hungry Horse, Montana, a distance of 4.4 miles).

As a consequence of an understanding previously reached between yourself and Gary Wood of my staff, documented in a letter from this office to Mr. D.C. Lewis dated July 20, 1989, we are providing the following information on threatened and endangered species at this time.

In accordance with Section 7(c) of the Endangered Species Act as amended (Act), we have determined that the following listed and proposed threatened or endangered species may be present in the project area:

<u>Listed Species</u>	<u>Expected Occurrence</u>
Grizzly bear (<u>Ursus arctos</u> <u>horribilis</u>)	Resident near project
Gray wolf (<u>Canis</u> <u>lupus</u>)	Potential resident near project
Bald eagle (<u>Haliaeetus</u> <u>leucocephalus</u>)	Breeds in general project vicinity; wintering concentration along Flathead and South Fork Flathead Rivers; seasonal migrant
Peregrine falcon (<u>Falco</u> <u>peregrinus</u>)	Seasonal migrant
<u>Proposed Species</u>	
None	

None

VI-21

8-55-55 J. W. P. P.

Date Recd.	Precedence	Initial	Attach	DATE
MAIL ROUTE	INFO	30 - Eng. Specialties 31 - Contract Phase 32 - Management 33 - Logistics 34 - Training Design 35 - Traffic 36 - Hearing 37 - Radiogrammetry 38 - Consultant Design	1989 <i>[Handwritten signature]</i>	FILE

Section 7(c) of the Act requires that Federal agencies proposing major Federal construction actions conduct a biological assessment to determine the effects of the proposed action on listed and proposed species. If the biological assessment is not initiated within 90 days of receipt of the foregoing list, the list of threatened and endangered species should be verified with the Fish and Wildlife Service (Service) prior to initiation of the assessment. The biological assessment should be completed within 180 days of initiation, but can be extended by mutual agreement between your agency and the Service. The biological assessment may be undertaken as part of your agency's compliance of Section 102 of the National Environmental Policy Act (NEPA), and incorporated into the draft or final NEPA document. A Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment by giving written notice to the Service of such designation. If a biological assessment is prepared by the designated non-Federal representative, the Federal agency shall furnish guidance and supervision and shall independently review and evaluate the scope and contents of the biological assessment. The ultimate responsibility for compliance with Section 7 remains with the Federal agency.

We recommend that the biological assessment include:

- 1) a complete description of the project;
- 2) the current status, habitat use, and behavior of listed species in the project area;
- 3) discussion of the methods used to determine the information in item 2;
- 4) detailed evaluation of the direct and indirect effects of the action on listed species;
- 5) cumulative impacts from federal, state or private projects in the area;
- 6) coordination measures that will reduce/eliminate adverse impacts to listed species;
- 7) the expected status of listed species in the future (short- and long-term) during and after project completion;
- 8) determination of "no effect/may affect" to listed species;
- 9) review and citation of literature used in the assessment; and
- 10) personal contacts and views of recognized experts on the species at issue, to include at a minimum, comments from the Montana Department of Fish, Wildlife and Parks.

If it is determined that the project "may affect" any of the above-listed species, formal consultation should be initiated with us. If it is concluded that "no effect" is likely, we should be asked to review the assessment and concur with the determination of no effect.

Section 7(c) of the Act requires that the appropriate Federal agency shall not make any irreversible or irretrievable commitment of resources which would preclude the formulation of reasonable and prudent alternatives until consultation on listed species is completed.

Based on the limited information we now have, it appears that the project may encroach on the Flathead River at some locations, in addition to requiring replacement of the existing bridge over the South Fork Flathead River just west of Hungry Horse. In that regard, we suggest that you or your agent work very closely with the Montana Department of Fish, Wildlife and Parks to minimize any essential stream encroachment and associated fishery impacts. We also recommend that a wetlands assessment be conducted in accordance with the recently-signed, "Interagency Memorandum of Understanding: Management and Mitigation of Highway Construction Impacts to Wetlands in the State of Montana".

Please contact Mr. Larry Lockard by telephone at (406) 775-7870 if we can be of further assistance or if you have questions regarding this letter.

Sincerely,

Stephen A. McMaster

Kemper McMaster
Acting State Supervisor
Montana State Office

cc: ✓ Stephen Kologi, Montana Dept. of Highways (Helena, MT)
Jeff Ryan, Montana Department of Highways (Helena, MT)
Jeff Herbert, Montana Dept. of Fish, Wildlife & Parks (Helena, MT)
Ken Chrest, Montana Dept. of Fish, Wildlife & Parks (Helena, MT)
Jack Thomas, Montana Dept. of Health, Water Quality Bureau (Helena, MT)
Steve Potts, Environmental Protection Agency (Helena, MT)
John Peters, Environmental Protection Agency (Denver, CO)
Larry Lockard, U.S. Fish & Wildlife Service (PWE-61130-Kallispeil)
BFA/ERT (Washington, DC)
Suboffice Coordinator, U.S. Fish & Wildlife Service (PWE-61130-Billings)

JCH/dc/clh

"Take Pride in America"

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
AIR QUALITY BUREAU



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

FAX # (406) 444-3008

(406) 444-3454

COGSWELL BUILDING

HELENA, MONTANA 59620

August 24, 1989

Mr. Stephen Kologi, Chief
Preconstruction Bureau
Montana Department of Highways
Capitol Station
Helena, MT 59620

Dear Mr. Kologi:

This is in response to your letter of notification regarding the highway improvement project designated as F1-2(39)138 Columbia Heights-Hungry Horse.

In general, any project which will smooth out the traffic flow, and reduce stopping and idling time will also reduce the amount of air pollution emissions from transportation sources. From this standpoint the Air Quality Bureau would like to support your efforts to upgrade the Montana highway system. Asphalt plants and gravel crushers are the primary emission sources for highway construction, and they must obtain an air quality permit from our office to operate in the state.

Sincerely,

Warren Norton
Warren Norton
Environmental Specialist

Date Recd.:	Precedent	8/29/89	Initial
AS	MAIL ROUTE	Attach	
	30	30 Eng. Specifications	
	31	31 Contract Plans	
	32	32 Loc. Road Map/Plan	
	33	33 Environment	
	34	34 Hydraulics	
	35	35 Surfacing Design	
	36	36 Traffic	
	37	37 Pub. Hearing	
	38	38 Photogrammetry	
	39	39 Consultant Design	
		<i>J. F. McLeary</i>	
		File	

WN:kh

United States
Department of
Agriculture

Soil
Conservation
Service

Federal Building, Room 443
10 East Babcock Street
Bozeman, MT 59715

RECEIVED

OCT 3 1989

ROBERT PECCIA
& ASSOCIATES

Mr. Stephen C. Kologi,
Preconstruction Bureau
Department of Highways
2701 Prospect Ave.,
Helena, MT 59620

RE: FI-2(39)138 Columbia Heights-Hungry Horse NOTICE OF INTENT

Dear Mr. Kologi:

We have reviewed the above Notice of Intent and have no comments to offer.

Sincerely,

Richard J. Gooby

RICHARD J. GOOBY
State Conservationist

cc:

Ron Batchelor, State Biologist, SCS, Bozeman, MT

Date Recd. Preconst.	Initial
Act	
Info	
MAIL ROUTE	
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30 Eng. Specialties	
31 Contract Plans	
32 Loc. Road Design	
33 Environment	
34 Highway	
35 Structural Design	
36 Traffic	
37 Noise	
38 Environmental	
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100 Professional	

File



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

(406) 444-2806

HELENA, MONTANA 59604

DEPARTMENT OF COMMERCE
AERONAUTICS DIVISION

P.O. BOX 5178
2630 AIRPORT ROAD

September 7, 1989

Mr. Stephen C. Kologi, P.E.
Chief, Preconstruction Bureau
Department of Highways
2701 Prospect Avenue
Helena, MT 59620

Dear Mr. Kologi:

FILE: F 1-2 (39) 138
Columbia Heights - Hungry Horse
NOTICE OF INTENT

The Montana Aeronautics Division has reviewed the above-mentioned project; and, in our opinion, this project will not have any adverse effects on aeronautical activities in this area.

Thank you for the opportunity to comment on this project.

Sincerely,

Michael D. Ferguson, Administrator
Aeronautics Division

David Burrows
Gerald C. Burrows, Chief
Airport/Airways Bureau

bp

Date Recd. Preconst.	Initial
Act	
Info	
MAIL ROUTE	
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30 Eng. Specialties	
31 Contract Plans	
32 Loc. Road Design	
33 Environment	
34 Highway	
35 Structural Design	
36 Traffic	
37 Noise	
38 Environmental	
39 Professional	
40 Professional	
41 Professional	
42 Professional	
43 Professional	
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"AN EQUAL OPPORTUNITY EMPLOYER"

VI-24



Department of Energy
Bonneville Power Administration
Upper Columbia Area
Room 561, U.S. Court House
West 920 Riverside Avenue
Spokane, Washington 99201-1083

September 26, 1989

In reply refer to: UD-5

Mr. Stephen C. Kologi
Chief, Preconstruction Bureau
Montana Department of Highways
2701 Prospect Avenue
Helena, Montana 59620

Dear Mr. Kologi:

Subject: PI-2(39)138
Columbia Heights - Hungry Horse

Enclosed are two Bonneville Power Administration (BPA) plan and profile maps, which contain information on BPA powerlines in the area that you contemplate for improvement. A location map is also enclosed. If any of your proposed alternatives would affect such BPA facilities as tower locations, etc., please contact this office to coordinate impact analysis. We wish to review your environmental impact statement so that all impacts are adequately covered in your document.

The information provided herein was also requested by S. L. Willows, Coalition for Canyon Preservation. That group may have similar concerns that all significant issues are addressed. BPA looks forward to cooperating in your effort to address any significant concerns. Please feel free to contact Mr. Randy Moy of the BPA Montana State Coordination Office, Federal Building (Room 162) Drawer 10061, 301 S. Park Avenue, Helena, MT 59626 (406-449-5093), or myself at the above address, if your desire further information or have any questions.

Sincerely,

William A. Praeland
William A. Praeland
Area Environmental Coordinator

Enclosure

Date Recd. Preconst	9/29/89
MAIL ROUTE	
Info	
Act	
30 Preconst Engr	
30 Assistant	
30 Office Mgr	
32 Road Design	
33 Environment	
34 Hydraulics	
35 Survey & Mapping	
36 Training	
37 Consultant	
38 Other	
File	

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

DIRECTOR'S OFFICE (406) 444-6699
TELEFAX NUMBER (406) 444-8721

LEE METCALF BUILDING
1520 EAST SIXTH AVENUE

HELENA, MONTANA 59620-3201

RECEIVED

NOV 7 1989

ROBERT PECCIA
& ASSOCIATES

October 31, 1989

Stephen C. Kologi, P.E.
Chief, Preconstruction Bureau
Montana Department of Highways
2701 Prospect
Helena, MT 59620

RE: F 1-2(39)138 Columbia Heights - Hungry Horse

Dear Mr. Kologi:

This department has several concerns about the above-referenced project. First, this project will involve designated floodplains. Therefore, a floodplain development permit will have to be obtained from the Flathead Regional Development Office, 723 Fifth Ave. East, Kalispell, MT 59901 (phone 752-5300).

Second, water may be needed for dust control or some other construction-related purpose. If so, a temporary water use permit will have to be obtained. For information about application forms and procedures, contact the DNRC Water Rights Field Office, P.O. Box 860, Kalispell, MT 59903 (phone 752-2288).

Third, this project may affect irrigation facilities. Care should be taken during construction not to interfere with existing water rights, and any facilities that may be involved should be maintained or replaced. Our Kalispell Water Rights Field Office can provide information on any water rights that may be affected.

Sincerely,

Jam Bond
Jam Bond
Information Officer/
Citizen Participation Advocate

cc: Ron Guse, Water Resources Division
John Hamill, Water Resources Division
Chuck Brasen, Kalispell Field Office
Intergovernmental Review Clearinghouse

Date Recd. Preconst	11/2/89
MAIL ROUTE	
Info	
Act	
30 Preconst Engr	
30 Assistant	
30 Office Mgr	
32 Road Design	
33 Environment	
34 Hydraulics	
35 Survey & Mapping	
36 Training	
37 Consultant	
38 Other	
File	

CENTRALIZED SERVICES
DIVISION
(406) 444-8700

CONSERVATION & RESOURCE
DEVELOPMENT DIVISION
(406) 444-6667

ENERGY
DIVISION
(406) 444-6667

OIL AND GAS
DIVISION
(406) 444-6675

WATER RESOURCES
DIVISION
(406) 444-6661

RECEIVED

DEC 2, 1989

**ROBERT PECCIA
& ASSOCIATES**

Dear Mr. Johnson:

RE: F 1-2(39) 138
Columbia Heights

We have reviewed your above-mentioned proposed project for highway reconstruction improvements. The Department of Fish, Wildlife and Parks knows of no 6(f) or 4(f) Conversion of Use which would occur as a result of the proposed highway reconstruction.

Thank you for the opportunity to comment. We appreciate your cooperation.

Sincerely,

MARY ELLEN POOLE
Administration Officer I
Operations Bureau
Parks Division

MEP/th

Date Recd.	Prescrip.	11/29/69	Initial	Altach					
MAIL ROOM									
Info	✓	33 Prescrip. Wf	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69
Act	✓	33 Prescrip. Wf	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69
File	✓	33 Prescrip. Wf	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69	30 Nov 69

DELETED

JAN 22 1990.

**ROBERT PECCIA
& ASSOCIATES**

UNITED STATES
DEPARTMENT OF
AGRICULTURE

35 W. Reserve Drive
KALISPELL MT 59901
PHONE 752-4242

SOIL
CONSERVATION
SERVICE

1-19-90

Robert Peccia & Associates
BOX 5633
Helena, MT 59604-5633

Dear Sirs:

In response to your letter requesting information on soils and farmlands in the area of the proposed reconstruction of Highway 2 between Columbia Heights and Hungry Horse.

The SCS Soil Survey does not encompass the entire corridor of the proposed project, however enclosed you will find all of the information that we have on the area including general soils information and prime farmland information including a copy of the map. To further investigate the soils further you may want to contact the Supervisors Office of the Flathead National Forest to obtain a copy of the Forest Soil Survey.

I hope this information can assist you in the writing of the E.I.S. If we can be of further assistance to you don't hesitate to contact us.

Thank You.

Sincerely,

Rich Pettersen
District Conservationist

Enclosures

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

LEE METCALF BUILDING
1520 EAST SIXTH AVENUE

DIRECTOR'S OFFICE (406) 444-8699
TELEFAX NUMBER (406) 444-8721

RECEIVED

MAR 23 1990

ROBERT PECCIA
& ASSOCIATES

March 21, 1990

Mr. Daniel Norderude
Transportation Planner
Robert Peccia & Associates Engineers
P.O. Box 5653
Helena, MT 59604

RE: Columbia Heights - Hungry Horse Highway Project EIS

Dear Dan:

The City of Columbia Falls and Flathead County are participating in the National Flood Insurance Program. Each has adopted a floodplain management ordinance that requires a permit for floodplain development activities. The community of Hungry Horse is unincorporated and falls under the jurisdiction of Flathead County.

You must request the cross-sectional information you mentioned through FEMA's regional office. Send your request to:

John Liou, Regional Hydrologist
FEMA, Region 8
Box 25267
Denver Federal Center
Denver, CO 80225-0267

I recommend that you call periodically after submitting the request to ensure a timely response. We generally have the information you requested, but data for that portion of the Flathead River is not in our files.

Sincerely,

John R. Hamill

John R. Hamill, Supervisor
Floodplain Management Section
Engineering Bureau

JRH:cf

CENTRALIZED SERVICES
DIVISION
(406) 444-8706

CONSERVATION & RESOURCE
DEVELOPMENT DIVISION
(406) 444-8847

ENERGY
DIVISION
(406) 444-4857

OIL AND GAS
DIVISION
(406) 444-8755

WATER RESOURCES
DIVISION
(406) 444-4841

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date of Land Evaluation Revision	
Name of Project	COLUMBIA HEIGHTS - HUNGRY HORSE F-12/29/1988	Name of Agency	U.S. DEPARTMENT OF AGRICULTURE
Location of Project	FLATHEAD COUNTY, MT	Name of Agency	U.S. DEPARTMENT OF AGRICULTURE
PART II (To be completed by SCS)			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply - do not complete additional parts of this form.)			
Yes	No		
☐	☐		
Name of Land Evaluation System Used			
Name of Land Evaluation System			
PART III (To be completed by Federal Agency)			
A. Total Acres To Be Converted Directly			
B. Total Acres To Be Converted Indirectly			
C. Total Acres in Site			
PART IV (To be completed by SCS) Land Evaluation Information			
A. Total Acres Prime And Unique Farmland			
B. Total Acres Statewide And Local Important Farmland			
C. Percentage Of Farmland In County Of Local Govt. Unit To Be Converted			
D. Percentage Of Farmland In Govt. Jurisdiction With State Or Higher Review Value			
PART V (To be completed by SCS) Land Evaluation Criterion			
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)			
PART VI (To be completed by Federal Agency)			
Site Assessment Criteria (These criteria are explained in 7 CFR 888.81(a))			
1. Area In Non-urban Use	ALT 1	ALT 2	ALT 3
2. Perimeter In Non-urban Use	10	10	10
3. Percent Of Site Being Firmed	20	20	20
4. Protection Provided By State And Local Government	20	20	20
5. Distance From Urban Builtup Area	N/A	N/A	N/A
6. Distance To Urban Support Services	N/A	N/A	N/A
7. Size Of Present Farm Unit Compared To Average	20	20	20
8. Creation Of Nonfarmable Farmland	20	20	20
9. Availability Of Farm Support Services	20	20	20
10. On-Farm Investments	20	20	20
11. Effects Of Conversion On Farm Support Services	20	20	20
12. Compatibility With Existing Agricultural Use	10	10	10
TOTAL SITE ASSESSMENT POINTS	160	52	52
PART VII (To be completed by Federal Agency)			
Relative Value Of Farmland (From Part VI)			
Total Site Assessment (From Part VI) above or a local site assessment			
TOTAL POINTS (Total of above 2 lines)			
Site Selected: SITE A (ALT 1) Date Of Selection 8/9/85			

Reason For Selection:
SITE A WAS SELECTED ON THE BASIS OF HIGHWAY CAPACITY, OPERATIONAL AND SAFETY BENEFITS THE ALTERNATIVE WILL PROVIDE FOR THE PROJECT CORRIDOR. FORM AD 1006 WAS NOT SUBMITTED TO THE SCS BECAUSE THE TOTAL SCORE FOR THE SITE ASSESSMENT CRITERIA IN PART VI WAS LESS THAN 60 POINTS. PREVIOUS COORDINATION WITH SCS OCCURRED IN 5/10.

(See Instructions for Form AD 1006)

Form AD-1006 (10-83)



United States
Department of
Agriculture

Forest
Service
(406) 387-5243

Hungry Horse Ranger District
PO Box 340
Hungry Horse, MT 59919-0340

RECEIVED

MAY 7 1990

Reply to: 1560

Date: 5/4/90

ROBERT PECCIA
& ASSOCIATES

Mr. Daniel Nordenud
Robert Peccia & Associates
Box 5653
Helena, MT 59604

Dear Mr. Nordenud

Your request for information necessary to complete the Section 4f Evaluation for the Columbia Heights to Hungry Horse Highway EIS was forwarded to me for reply. This project has little direct impact on Forest land. Most of the proposed development is on private land or on land that is in other non federal ownership. In this response I will limit my comments to Forest land only.

Forest lands directly effected by the project are in the N 1/2, NW 1/4, S 7, T 30 N, R 19 W, MPM on the Hungry Horse Ranger District, Flathead National Forest. This encompasses a gross area of approximately 80 acres. Within this area an estimated 15 acres or less have the potential to be directly impacted by the highway construction or placement of the new bridge. This land lies along approximately 2600 linear feet of existing highway beginning at the east end of the South Fork Bridge and running toward the mouth of Badrock Canyon.

Management direction for all Forest land in the vicinity of the project is specified in the Flathead National Forest Plan. Forest lands directly effected by this project are subject to the general provisions of the Forest Plan as well as the specific management direction found in Chapter III of the Plan. These lands are within Management Area (MA) 10. A copy of the specific management direction for this area is attached for your information.

MA-10 consists of lands designated as Administrative Sites. These lands are managed for continued use as administrative sites. They are not managed for recreation, park, wildlife or waterfowl purposes nor are they significant for these purposes as specified in Federal Regulations (23 CFR 771.135d).

The effected Forest lands on the west side of the South Fork of the Flathead River are in Situation 2 Grizzly Bear Habitat. Those on the east side of the river are in Situation 3 Grizzly Bear Habitat. Situation 2 is defined as an area that lacks distinct grizzly bear population centers; highly suitable habitat does not generally occur, although some grizzly bear habitat components exist and grizzlies may be present occasionally. By definition Situation 2 areas are considered unnecessary for survival and recovery of the bear. Situation 3 is defined as areas where grizzly presence is possible but infrequent; where developments associated with high levels of human presence result in conditions which make grizzly presence untenable for humans and/or grizzlies.

These effected Forest lands are also within essential Bald Eagle habitat (USFS, Bald Eagle Essential Habitat, September 1978). Bald eagles are known to use this portion of the South Fork of the Flathead River as a migratory flyway during the fall and early winter. This constitutes the major use of effected Forest lands by this species. A few eagles have been observed during the winter, indicating that some of them winter in the Flathead Valley. There are no known nest sites in the area. The area already has significant human related disturbances in the form of heavy train and motor vehicle traffic. Additional

impacts are most likely to occur in the form of displacement during the construction period. We have no means of assessing possible long term effects of this displacement. Assuming that the volume of traffic will be independent of the eventual highway standard, the only potential impact on eagles would be if there is a significant reduction of screening between the highway and the South Fork. If this potential can be eliminated or mitigated there should be no additional adverse effects on eagles.

In summary, the project, as proposed, will cross Forest land designated as Management Area 10 that is not significant for park, recreation, wildlife or waterfowl purposes as specified in Federal Regulations (23 CFR 771.135d). Based on the land classifications and known uses it should have no long term effects on the use of Forest lands by threatened or endangered species, provided that the single concern related to bald eagles is addressed.

Forest lands adjacent to the proposed construction in Section 7, and those that lie south of the private land where the remainder of the construction will take place are not directly effected by this proposal. In the event that indirect effects become an issue, it is worthwhile to note the management scheme prescribed for these lands. They are located in Management Area 3 which consists of non forested lands and timberlands that are suited for amenity value resources. These lands are managed to maintain or enhance amenity values which include nongame wildlife species, visual quality, old growth and water quality. Generally the area will provide wildlife and fish habitat, including security from human disturbance. Recreation opportunities will be provided where they will not interfere with wildlife and fish values. Lands in MA-3 are generally available for recreation, but they are not specifically managed for that purpose. The Forest lands adjacent to the project do not serve significant recreation purposes as specified in Federal Regulations (23 CFR 771.135d). There are no significant waterfowl activities on this land. Existing development in Badrock Canyon (US Highway #2, the Burlington Northern Railroad, Berne Park) with its associated heavy use has already impacted wildlife use on these adjacent lands. Although some wildlife use continues to exist on the MA-3 lands adjacent to the project, its significance has been reduced by historic development in the canyon. Assuming that the volume of traffic will remain the same regardless of the highway standard, the project should have little additional impact to wildlife. Reconstruction of the highway adjacent to the MA-3 Forest lands should not significantly reduce existing or potential recreation, waterfowl or wildlife opportunities on these lands beyond what exists today. I am enclosing a copy of the MA-3 management direction for your information.

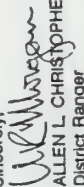
These Forest lands in MA-3 are within Situation 2 Grizzly Bear Habitat. Those areas that are within 1/2 mile of the South Fork or the main stem of the Flathead are within Essential Bald Eagle Habitat. The same statements made in addressing threatened and endangered species in MA-10 apply in this situation.

A very small portion of the project lies within the Middle Fork of the Flathead Recreational River Corridor (MA-18). It is located in Lot 14 in the extreme SW corner of section 6. This 0.64 acre parcel is Forest land which is crossed by the existing highway. It is well away from and out of site of the main channel of the Middle Fork. It is unlikely that any construction will have a significant impact on river values within the Wild & Scenic River corridor. A copy of management direction for MA-18 is included.

I am enclosing a map showing the various areas discussed above. It may be worthwhile to note that the Middle Fork Recreational River Corridor is slightly different than you depicted on the map you sent with your 3/12/90 letter. This is the correct location.

If we can be of further help, please feel free to contact us again.

Sincerely,


ALLEN L. CHRISTENSEN
District Ranger

CC: D. Paulson



State Historic Preservation Montana Historical Society

Mailing Address: 225 North Roberts • Helena, MT 59620-9950
Office Address: 102 Broadway • **RECEIVED** 444-7715

June 13, 1990

JUN 18 1990

Edrie Vinson, Supervisor
Environmental Unit
Montana Department of Highways & ASSOCIATES
2701 Prospect Avenue
Helena, MT 59620

Re: Columbia Heights-Hungry Horse
F 1-2(39)138

Dear Edrie:

Thank you for requesting our comments on BRA's cultural resource inventory for the project referenced above. There appear to be some gaps in their preparation of this report. First, very little relevant context is provided. For example, donation of the land which became the Berne Memorial Park suggests that someone locally thought Berne was worth dedicating a memorial to. A little checking showed that the Berne brothers were pioneer residents who lived in the area most of their lives, and were involved in commercial operations which may have been important to local development. These facts are alluded to in the report, but no evaluation of the potential significance of the brothers is provided. We are not concerned with their role because of the park, given its late date of donation, but because of their association with the property recorded as 24FH419.

My initial review of that property suggested that some testing should have been done to determine whether there were subsurface remains which might possess information value. The vegetation looked pretty thick in the photos provided, and the fact that there was a dump at least partly exposed with material which should be datable supported the indications to test. Photos provided to us, which your department also received copies of, I believe, confirmed that there was much more to the homestead than the remains recorded suggest. Under the circumstances, I believe some further looking at the site is justified. We would like to know whether the rest of the buildings that were once at the site are identifiable, and what kinds and amounts of subsurface remains there are in order to evaluate the potential eligibility of the homestead under Criterion D.

The whole question of Bad Rock Canyon is also left unaddressed in the report. Is it a significant landscape? It is obviously a long-term travel corridor, and its use to access Glacier National Park may mean that there are written accounts of travellers passing through. If so, these should be checked to ascertain whether landmarks within the canyon remain which have associative

Vinson
June 13, 1990
Page 2

value. It was also apparently the scene of a battle between the Kootenai(?) and the Blackfeet. What, if anything, is known about the particulars of that battle? I see that no Native American comments had been received when the report was written. I understand from Gary McLean on the Flathead National Forest that both the Blackfeet and the Kootenai have expressed concerns to him, and intend to comment. They may know the particulars of the battle, or even be able to provide oral history which will address the integrity of the local landscape in terms of its association with that episode. Given the sacred nature of lands which are now included within Glacier National Park, other traditional cultural values may also be involved here. It appears to be of utmost importance to secure tribal comments on this undertaking.

We received a copy of Gary's letter to you, Edrie, indicating that his comments would be provided once he had received comments from the Blackfeet. Since the USFS is also a concerned party to this undertaking, we will want to have Gary's comments, too, before we complete our review.

Thank you for allowing us to send these preliminary comments, and we will anticipate further consultation for this project. Please call if we can be of assistance in the interim.

Sincerely,

Kathy Huppe

Katherine M. Huppe
Historical Survey Reviewer

cc: Curly Bear Wagner
Patricia Hewankorn
Gary McLean

File: Comp/MDOB-Columbia Heights-Hungry Horse

Santa Consultant
6-15-90
Bob Applegate



Department of Energy
Bonneville Power Administration
Upper Columbia Area
Room 581, U.S. Court House
West 920 Riverside Avenue
Spokane, Washington 99201-1083

In reply refer to: UE

RECEIVED

June 26, 1990

JUN 29 1990

Mr. Daniel Norderud
Robert Peccia & Associates
P.O. Box 5653
Helena, MT 59604

ROBERT PECCIA
& ASSOCIATES

Dear Mr. Norderud:

The towers and transmission lines indicated in your letter to Environmental Coordinator, William Freeland, dated April 20, 1990, are owned and operated by Bonneville Power Administration (BPA) rather than the Columbia Falls Aluminum Company. The lines and structures were purchased from ARCO Metals February 21, 1984.

The vertical clearance between the road and the 230-kV loop line may fall below acceptable standards with a vertical adjustment to the elevation of the road. An elevation adjustment of the towers on each side of the road could be required. A tower relocation would have a cost associated with it. Tower relocation may, however, be a better alternative than trying to control the fill slope in close proximity to the existing towers.

Enclosed is the plan and profile drawings you requested. If you require more engineering data, please call Don Hawkins, Montana District Engineer in Missoula at (406) 329-3060.

Sincerely,

William A. Freeland
Area Environmental Coordinator

Enclosure

VI-30

DEPARTMENT OF HIGHWAYS



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

2701 PROSPECT AVE.

HELENA, MONTANA 59620

RECEIVED

July 25, 1990

AUG 29 1990

ROBERT PECCIA
& ASSOCIATES

Marcella Sherry
State Historic Preservation Officer
Montana Historical Society
225 North Roberts
Helena, MT 59620

Subject: F 1-2(39)138
Columbia Heights - Hungry Horse

Thank you for your request for additional information on 24FH419, the Freida Wilkes Herrig property, later sold to Billy Berne. Highway construction, in 1934, took the original site of Mrs. Wilkes house. The remnants indicated on the site map, page 8, are primarily on the north slope downward where it meets the toe of the slope from the original highway construction. Figure 5, page 9, gives an indication of the slope to which I refer.

We have not conducted any archaeological excavations at this site because we are unaware of any significant information the site could possibly yield that is not more readily available in the written record. The dump could hold tin cans, which have no particular artifact value. Information on canned goods available to consumers during the period can be located in period catalogs and in records of mercantile stores. Other scrap metal parts or pieces could likewise be available in the same or similar historic records.

As for any possible local significance of Mrs. Wilkes or Billy Berne, other sites are probably more likely to portray ties to them than does this site. The report refers to the Berne family being associated with a brick yard in Columbia Falls and that their brick was used in the construction of many downtown buildings. Perhaps the yard itself, or buildings constructed with their brick still exist, and would better represent their possible local significance than would this site, built and occupied by Mrs. Wilkes.

DEPARTMENT OF HIGHWAYS



STAN STEPHENS, GOVERNOR

2701 PROSPECT AVE.

STATE OF MONTANA

HELENA, MONTANA 59620

August 10, 1990

Marcella Sherfy
State Historic Preservation Officer
Montana Historical Society
225 North Roberts
Helena, MT 59620

Subject: F 1-2(19)138
Columbia Heights - Hungry Horse

Enclosed please find supplemental information on the Berne property. The highway plans you have in your file date to 1928. It shows that the right-of-way purchased from the Berne family did not include their buildings. In 1949, however, there was an additional purchase, and the land on which the buildings sat was required for improvements. The purchased portion is highlighted for your convenience in reading the plans. Also enclosed is a copy of a memo regarding the removal of the buildings.

In read through the rough draft of the comments at the public scoping meeting June 26, 1990. Unfortunately Mr. Simpson's comments about the house being exactly where the road is now are not on it. Apparently he made that statement following the formal meeting, at a time when the people were gathered around the aerial displays at the front of the room. These documents, however, show conclusively that the buildings were taken by the department in 1949.

I believe this is sufficient to demonstrate that this property no longer possesses integrity, a requirement for being considered eligible for listing on the National Register of Historic Places. I would appreciate your

Marcella Sherfy
Page 2
August 10, 1990

concurance that this project will have no effect on properties on or eligible for listing on the National Register of Historic Places. Thank you for you consideration.

Edrie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:D:ENV:J.mb

Enclosures

cc: D. S. Johnson, w/attach
G. A. Jackson, "
R. R. Newhouse, "
J. T. Weaver, "
Environmental Section, w/attach
File, w/attach

CONCUR
NO PROPERTIES ON OR ELIGIBLE
FOR NHP APPEAR UNLIT IN
EXIST WITHIN PROJECT IMPACT AREA
MONTANA SHPO
DATE 8/26/90 SIGNED *[Signature]*

DEPARTMENT OF HIGHWAYS



STAN STEPHENS, GOVERNOR

2701 PROSPECT AVE.

STATE OF MONTANA

RECEIVED

HELENA, MONTANA 59620

August 15, 1990

AUG 17 1990

ROBERT PECCIA
& ASSOCIATES

Marcella Sherfy
State Historic Preservation Officer
Montana Historical Society
225 North Roberts
Helena, MT 59620

Subject: F 1-2(39)138
Columbia Heights - Hungry Horse

I sent Jon Axline to the Columbia Heights area to determine if there were any sites better associated with the Berne Brothers than the Bad Rock Homestead site (24FH419). Both the brickyard and brick home associated with the brothers have been destroyed within the last decade. The old St. Richards Catholic Church in Columbia Falls, however, is still standing. The church, built with brick acquired from the brickyard, is already listed in the National Register of Historic Places.

The Montana Department of Highways is offering to erect an historical marker commemorating the Berne family and directing the readers to the church -- if you recommend that it should be done. We are firm in our recommendation that the Berne Site (24FH419) has lost integrity and is not eligible for the National Register.

Edie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:JA:D:ENV:11.mb
cc: D. S. Johnson
G. A. Jackson
R. R. Newhouse

J. T. Weaver
Environmental Section
File

AN EQUAL OPPORTUNITY EMPLOYER



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Fish and Wildlife Enhancement
Federal Bldg., U.S. Courthouse
301 South Park
P.O. Box 10023
Helena, Montana 59626

JAN 6 1991

ROBERT PECCIA
& ASSOCIATES

IN REPLY REFER TO:

M.17 Fed Highway Admin. (I)

Mr. Daniel M. Norderud
Robert Peccia and Associates
P.O. Box 5653
Helena, Montana 59604

Dear Mr. Norderud:

This responds to your November 20, 1990 letter addressed to Gary Wood of our Billings Suboffice concerning Federal Highway Administration Project F1-2(39)138, Columbia Heights - Hungry Horse. Your letter transmitted a draft Biological Assessment for review and requested our comments. The draft Assessment addresses four endangered/threatened species: grizzly bear (*Ursus arctos horribilis*), gray wolf (*Canis lupus*), peregrine falcon (*Falco peregrinus*), and bald eagle (*Haliaeetus leucocephalus*).

Based on the information presented, we believe we could concur in the tentative conclusion in the draft Assessment that the proposed project is not likely to adversely affect the grizzly bear, gray wolf, or peregrine falcon.

As noted in the draft Biological Assessment, the bald eagle reportedly uses mature cottonwoods and conifers along the Flathead River within the project corridor, including along a 1/4 mile reach where a narrow strip of vegetation (trees) will be largely removed. The Assessment notes that removal of these trees could potentially affect foraging sites and flight paths of bald eagles. It is also noted that, if construction occurs between fall and spring, it is possible that birds intending to roost or perch in these trees and in the general vicinity may be temporarily displaced by noise, dust and construction activities. The Assessment further notes that widening of the highway may result in higher vehicular travel speeds, which could conceivably result in collisions between eagles and vehicles if the former are attracted to road-killed animals that would serve as food items. Finally, it is noted that if the numbers of eagles using this area during the winter period should eventually return to the levels of use existing a few years ago (prior to a sharp reduction in the migratory kokanee salmon population in this area), then it is possible that clearance of the trees along the 1/4 mile reach of Flathead River may contribute to a cumulative effect on wintering eagles due to the project, logging in the vicinity, and other developments in the general area.

January 4, 1991

Mr. Daniel M. Norderud
January 4, 1991
Page 2

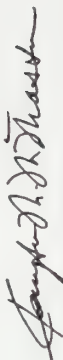
discussions with relevant fishery managers in the area) and some analysis of
Mr. Daniel M. Norderud
January 4, 1991
Page 3

The draft Assessment concludes that these effects are likely to be "insignificant or discountable relative to local or regional populations" (page 4). Regulations implementing Section 7 of the Endangered Species Act, as amended, provide for an exception to formal consultation if the U.S. Fish and Wildlife Service (Service) concurs in writing that a project is not likely to adversely affect a listed species. Service policy implementing these regulations provide that activities found to have beneficial, discountable or insignificant effects on listed species or their critical habitats may be deemed to be in compliance with Section 7(a)2 without formal consultation. Beneficial effects are those actions which have positive impacts. Discountable effects relate to the size of the impact, while insignificant effects are those that are extremely unlikely to occur. While these conditions may arguably be met by the project, such a conclusion does not appear necessarily obvious from the information provided in the draft Biological Assessment. We have been advised through guidance from higher authority within the Service that the conclusion "not likely to adversely affect" does not apply to situations where any (non-beneficial) effect has been predicted, even though the action Agency may have agreed to offsetting measures during informal consultation that would eliminate most impacts but that would leave a basis for predicting some residual effects that are not necessarily clearly "discountable" or "insignificant". In such situations, there must be formal consultation. If appropriate, offsetting measures may be utilized to ensure that there is no likelihood of jeopardy.

For the above reasons, we believe the final Biological Assessment must include additional information before a determination can be made on whether a "not likely to adversely affect" is justified with regard to the bald eagle.

In that regard, we recommend the following: 1) the final Assessment should present a brief summary of what is known or available from appropriate agencies and experts about present/recent winter use of Badrock Canyon by bald eagles; this summary should include quantitative data, as well as qualitative information; 2) the discussion of tree removal should be expanded to disclose the area/approximate number of trees to be removed and express the extent to which these can be preserved, especially in the critical 1/4 mile identified in the draft Assessment; 3) a specific commitment should be made to conduct the work in the canyon area in the "off" season, or more information provided regarding the possibility of, and constraints on, this option; 4) an explanation of by whom and just how "road-kills" will be removed should be presented; and 5) a discussion should be presented of the prospects or likelihood that kokanee populations may return to historic levels (based on

Sincerely,


Kemper McMaster
Field Supervisor
Montana/Wyoming Field Office

JGW/dc/ndg

(B:NORDERUD)

cc: Dale Paulson, Federal Highway Administration (Helena, MT)
Asst. Regional Director, USFWS, Fish & Wildlife Enhancement (Denver, CO)
Suboffice Coordinator, USFWS, Fish & Wildlife Enhancement (Billings, MT)

State Historic Preservation Office
Montana Historical Society
Mailing Address: 225 North Roberts • Helena, MT 59620-9490
Office Address: 102 Broadway • Helena, MT • (406) 444-7115

July 2, 1991

Edrie L. Vinson

Supervisor

Environmental Section

Montana Department of Highways

2701 Prospect Avenue

Helena, MT 59620

Re: Columbia Heights-Hungry Horse

F 1-2(39)138

Dear Edrie:

Thank you for the opportunity to comment on Marilyn's report for the project referenced above. We do concur with her judgement that the historic logging camp recorded as 24FH455 is not eligible for National Register listing. I am intrigued by the circular stone feature, especially given its proximity to a much travelled prehistoric corridor. If it becomes necessary to test 24FH454, I would recommend a test within that feature, too, just to be sure.

I will paraphrase Mark's comments on prehistoric resources identified. Given the limited density and distribution of surface materials in a plowed field at 24FH453, and the fact that cut facing did not reveal additional information, we concur that site is not likely to qualify for the National Register. While we do accept Marilyn's research experience in similar settings elsewhere as good evidence, too, we do believe that before this model can be applied totally it should be tested for locations in Montana. Here, for example, constriction of the travelway by the canyon may have affected the general pattern of limited and diversified use along otherwise uniform river banks.

Mark suggests that monitoring of ground disturbances in this area may provide a useful check of the model. Alternatively, the discovery of substantial deposits during work should trigger further review. Here again, if testing of 24FH454 is needed, a few tests might be considered.

For 24FH454, we concur with Marilyn's recommendation for testing if avoidance isn't possible.

We would really appreciate it if we could borrow Thomas (1990). Thanks.

Sincerely,

Kathryn Kuyper

Katherine M. Kuyper

Historical Survey Reviewer

File: Comp/MDOH-project



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

2701 PROSPECT AVE.

RECEIVED

AUG 9 1991

ROBERT PECCIA
& ASSOCIATES

August 1, 1991

Marcella Sherfy
State Historic Preservation Office
225 North Roberts
Helena, MT 59620

Subject: F 1-2(39)138
Columbia Heights - Hungry Horse
C# 1290

The South Fork of the Flathead River Bridge at Hungry Horse is slated for reconstruction or demolition in 1995. While the bridge is included under the terms of the Programmatic Agreement Regarding the Treatment of Historic Roads and Bridges, the Montana Department of Transportation (MDT) believes it is wise to make a Determination of National Register Eligibility for this structure. By itself, the bridge is not important to our understanding of the history and development of steel girder and floor beam bridges in Montana, instead, it is a typical example of a design common to the state's highway system.

Constructed in 1938 by Thomas Staunton of Great Falls, the South Fork of the Flathead River Bridge at Hungry Horse is a steel girder and floor beam structure. The bridge was fabricated by the Minneapolis Steel & Machine Company with reinforced steel manufactured at the Bethlehem Steel Company plant in Seattle. Consisting of five spans, the bridge is 592-feet in length. The spans include three continuous deck plate girder spans (two at 110-feet and one at 137'6") and two simple 92-foot deckplate girder spans. There are two concrete T-beam approaches leading to the bridge. The concrete deck is supported by ten I-beam steel girders and approximately 90 steel floor beams placed at right angles to the girders. The bridge is supported by four concrete piers. The two-lane bridge is 29'1" wide with a curb-to-curb width of 26-feet. The bridge was constructed for a standard design load of H-15.

Marcella Sherfy
Page 2
August 1, 1991

The first steel girder and floor beam bridges were constructed in Montana for the railroads in the late 1880s. The design was particularly suited to the railroads since the bridges were structurally stable and were able to accommodate fast-moving heavy traffic. Ninety-eight steel girder and floor beam bridges for vehicular traffic have been constructed in Montana since 1909. The first steel girder and floor beam bridge was built in 1909 by Jefferson County construction crews and is located three miles north of Basin on Cataract Creek; the bridge was rebuilt in 1979. Although this type of bridges was constructed continually by the Montana Highway Department from the 1930s, most of the spans were constructed in conjunction with interstate projects during the 1960s (34 steel girder and floor beam bridges in Montana are associated with interstate highways). Of the 98 bridges constructed in Montana, all are still in use and only 14 have been rehabilitated.

Four steel girder and floor beam bridges are located in Flathead County: the South Fork of the Flathead River at Hungry Horse (1938), the Flathead River northwest of Big Fork (1955), the South Fork of the Flathead River near Coram (1960) and the Middle Fork of the Flathead River at Essex (1968). While the South Fork of the Flathead River Bridge was the earliest steel girder and floor beam structure constructed in the county, there are 15 bridges older than that bridge in Montana--five of which are located in the northwest part of the state: Pinkham Creek southwest of Eureka (1914), Sweathouse Creek near Victor (1917), in Mineral County near Alberton (1933) and two on the East Fork of the Bitterroot River southeast of Conner (1937). Only six of the 15 pre-1938 bridges have been rehabilitated by the Montana Department of Transportation.

The South Fork of the Flathead River Bridge was one of 137 bridges built by the Montana Highway Department in 1938. The majority (91) were timber bridges constructed under Works Progress Administration (WPA) sponsorship--primarily in eastern Montana. Twelve counties (Richland, Teton, Blaine, Carter, McCone, Cascade, Park, Yellowstone, Fallon, Phillips, Big Horn and Valley) accounted for 75% of the bridges built that year.

The South Fork of the Flathead River Bridge at Hungry Horse is not eligible for the National Register since it does not display any unusual design features and is common to the style. The first steel girder and floor beam bridge was built in Jefferson County in 1909 and the last was constructed in

Marcella Sherfy
Page 3
August 1, 1991

1988 in Dawson County. The design of the bridge has changed little since 1909; the only difference is in the quality of the building material used in the bridge's superstructure.

Since there are 98 steel girder and floor beam bridges located on Montana's primary and secondary highways and only 14 of them have been rehabilitated, this indicates that 84 bridges retain considerable integrity of design, materials, feeling and association with the history and development of this style of bridge. The South Fork of the Flathead River Bridge does not display any unusual design features and is not singularly important to our understanding of the history and development of bridge construction in Montana. There are 43 steel girder and floor beam bridges located on the state's primary and secondary road system and 55 bridges located on the Interstate system--all are nearly identical in design. Until recently, the steel girder and floor beam bridge was commonly used by the Montana Department of Highways for spanning obstacles wider than 130-feet. Since the deck is supported by two girders on this type of bridge, failure of one of the girders jeopardizes the usefulness of the bridge. Currently, the MDT relies on four beam girder bridges since the failure of one girder does not force the closure of the bridge.

We are requesting your concurrence that the South Fork of the Flathead River Bridge is not eligible for the National Register of Historic Places. If you have any questions or concerns, please contact Jon Axline at 444-6258.

Edrie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:JA:D:ENV:143.mb

cc: D. S. Johnson
C. S. Feil
P. R. Ferry
J. T. Weaver
E. L. Vinson
File

DEPARTMENT OF HIGHWAYS

RECEIVED



STAN STEPHENS, GOVERNOR

STATE OF MONTANA

ROBERT PECCIA & ASSOCIATES

HELENA, MONTANA 59620

OCT 18 1991

2701 PROSPECT AVE.

October 7, 1991

Marcella Sherfy
State Historic Preservation Officer
Montana Historical Society
225 North Roberts
Helena, MT 59620

Subject: F 1-2(39)138 (1290)
Columbia Heights - Hungry Horse

This letter is to document that the proposed Berne Road realignment and the adjacent recreational area along Highway 2 in Flathead County, will have no effect on significant cultural resources.

The project area inventory conducted by Montana Department of Transportation archaeologist Marilyn Wyss identified three cultural resource properties during the survey. Two of the properties, one historic and the other prehistoric, were recommended as not eligible for inclusion to the National Register of Historic Places. This recommendation received SHPO concurrence. The third property, 24FH454 required testing for adequate assessment of potential significance (see attached testing report). Tests conducted on this site were instrumental in recommending the property as not eligible. The determination is based on the paucity of cultural material associated with the site.

Testing conducted at the other sites following SHPO suggestion, provided additional information but did not substantially alter the original conclusions.

MDT has determined that there will be no impact on significant cultural properties within the project area;

AN EQUAL OPPORTUNITY EMPLOYER

Marcella Sherfy
Page 2
October 7, 1991

therefore, the Columbia Heights - Hungry Horse project will have no effect.

Edrie Vinson

Edrie L. Vinson, Supervisor
Environmental Section

ELV:MW:D:ENV:15.sl

cc: D. S. Johnson
C. S. Peil
J. T. Weaver
P. R. Ferry
Environmental Section
File

w/attach (NOT INCLUDED WITH DEIS, BUT AVAILABLE @ MDT OFFICES IN HELENA)



FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
FEDERAL BUILDING, US COURTHOUSE
301 S. PARK
P O BOX 10023
HELENA MT 59626

M.17 FHWA Columbia Heights/Hungry Horse

Paul R. Ferry, P.E.
Acting Consultant Design Engineer
State of Montana
Department of Highways
2701 Prospect Ave.
Helena, MT 59620

Dear Mr. Ferry,

This is in response to your October 28, 1991 letter requesting Fish and Wildlife Service (Service) review of the biological assessment pertaining to Federally listed threatened and endangered species for the proposed Project F1-2(39) 138 Reconstruction of U.S. Highway 2 between Columbia Heights and Hungry Horse Flathead County, Montana.

The Service has reviewed the biological assessment and disagrees with the determination that the proposed project is not likely to adversely affect the endangered bald eagle (Haliaeetus leucocephalus). The Service believes that the proposed action may effect the endangered bald eagle, therefore, pursuant to the Section 7 Interagency Cooperation Regulations (50 CFR 402.14, formal consultation is required.

As you know the purpose of formal consultation is to determine whether or not the effects of the action, plus any additional cumulative effects of State and private actions reasonably certain to occur in the action area, are likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

A written request to initiate formal consultation should be submitted to the Service at the above-referenced letterhead address. If we can be of any further assistance please contact Rob Hazlewood at (406) 449-5225 or FTS 585-5225. Your cooperation in meeting our joint responsibilities

Date Recd.	Preconst.	1-18-91	Attach
Info	30 Preconst Engr		
Act	30 Assistant		
	31 Theoretical Engr		
	31 Safety Mgmt.		
	32 Road Design		
	33 Environment		
	34 Hydraulics		
	35 Survey & Mapping		
	36 Traffic Engr.		
	37 Traffic Operations		
	39 Consultant Oen.		
	39 J. J. W. W. W. W.		
	File		

Mailing Address: 225 North Roberts • Helena, MT 59620-9990
Office Address: 102 Broadway • Helena, MT • (406) 444-7715

October 25, 1991

Edrie L. Vinson, Supervisor
Environmental Section
Montana Department of Transportation
2701 prospect Ave
Helena, Montana 59620

Re: Determination of Eligibility of 24FH454 [Columbia Heights-Hungry Horse F1-2(39)138(1290)]

Dear Edrie:

Thank you for requesting our comments on the archaeological testing report prepared by MMDOT Archaeologist Marilyn Wyss to resolve the eligibility of 24FH454, a prehistoric site identified during survey of the Columbia Heights-Hungry Horse park and road realignment project.

Based on the results of subsurface testing described in the report, we concur that 24FH454 is not eligible for the National Register of Historic Places under Criterion D.

Thank you also for your consideration of our earlier comments on the determinations of eligibility of 24FH453 (Prehistoric Site) and 24FH455 (Historic Logging Camp). We agree that the supplementary testing described at these two sites does not alter the original determination that these are not National Register eligible properties.

Thank you for consulting with us.

Sincerely,

Number

Mark F. Bauml, Ph.D.
Deputy SHPO/Archaeologist

File: MDOT/Columbia Heights-Hungry Horse/F1-2(39)138

MDOH1025.ELG

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JAN 28 1992

ROBERT PECCIA
& ASSOCIATES

**MASTER
FILE
COPY**

under the Endangered Species Act are appreciated.

Sincerely,



Dale Harms
State Supervisor
Montana State Office

RMH/rmh

cc: E. L. Vinson
D. W. Paulson

MASTER
FILE

State Historic Preservation Office

Montana Historical Society

Mailing Address: 225 North Roberts • Helena, MT 59620-9990

Office Address: 102 Broadway • Helena, MT • (406) 444-7715

December 17, 1991

Edrie L. Vinson, Chief
Environmental and Hazardous Waste Bureau
Highways

Department of Transportation
2701 Prospect

Helena, MT 59620

Re: F 1-2(39)138
Columbia Heights-Hungry Horse
Control No. 1290

Dear Edrie:

I am glad to respond to your letter of December 10, commenting on the significance of the South Fork of the Flathead River Bridge for Section 4(f) of 49 U.S.C. 303 purposes.

I am glad to concur that we have not and do not anticipate finding that bridge specifically significant (or insignificant) under any legal authority. Having agreed to a Programmatic Agreement for Montana's Roads and Bridges, within the framework of Section 106 of the National Historic Preservation Act, we concur in your work on the products specified by that document rather than reverting to property-by-property review of specific roads or bridges for any legal authority.

Sincerely,



Marcella Sherfy
State Historic Preservation Officer

File: COMP, MDOH

Environmental Bureau	
Date Received: 12-18-91	
ACT	INFO
	Distribution
	Adm. Engineering
	Adm. Operations
	Preservation
	Construction
	Estates
	Highways
	Landmarks
	Legal
	Public Affairs
	Records
	Training
	Other



U.S. Department
of Transportation
Federal Highway
Administration
Montana Division

RECEIVED
DEC 23 1991

ROBERT PECCIA
& ASSOCIATES

301 South Park Street
Room 448
Helena, Montana 59628

December 20, 1991

HPP-MT

Dale Harms, State Supervisor
United States Department of Interior
Fish and Wildlife Service
Federal Building, US Courthouse
301 S. Park, Box 10023
Helena, MT 59626

Dear Mr. Harms:

Subject: F 1-2(39)138 Columbia Heights - Hungry Horse
Biological Assessment

This is in reply to your November 4, 1991 letter to the Montana Department of Transportation (MDT) concerning the biological assessment on the subject project.

You disagreed with the determination in the biological assessment and asked that the Federal Highway Administration (FHWA) initiate formal consultation. Please consider this letter to be our request to initiate formal consultation.

We are including a supplemental discussion of minor impacts that may occur if the MDT jointly develops a river access and a historic exhibit area in cooperation with the United States Forest Service (USFS). The concept for this joint development project surfaced during cooperating agency meetings. Through this process it was determined that there is an existing need for safe access to the river for recreational purposes and the USFS was interested in providing this service to the public. At the same time a need exists to mitigate road related impacts to Bernie Park. The idea for a joint development project to meet agency needs and at the same time provide a needed amenity for the public, was born out of this process. However, because the Draft Environmental Impact Statement has not been released to the public the FHWA respectfully request that this intergovernmental exchange be withheld under the Freedom of Information Act (FOIA).

The FHWA believes that premature release of this material to any segment of the public gives some sectors an unfair advantage and has a chilling effect on intergovernmental coordination and the success of the cooperating agency concept. For this reason we respectfully request that the public not be given access to this information until the Draft Environmental Impact Statement has been released.

We look forward to working with you to meet our joint responsibilities under the Endangered Species Act and would be happy to help with any additional conservation measures that you believe should be incorporated into the project. We would also be happy to review and comment on the draft environmental opinion. If you need any additional information on any aspect of the project please do not hesitate to contact Dale Paulson at (406) 449-5310 or FTS 585-5310.

Sincerely,

Duane C. Lewis
Assistant Division Administrator

c: Dan Norderude - Peccia
c: Mark Leighton - State
c: Edrie Vinson - State



United States
Department of
Agriculture

Forest Service
Region 1
Federal Building
P.O. Box 7669
Missoula, MT 59807

RECEIVED

JAN 20 1992

Reply to: 7720

ROBERT PECCIA
& ASSOCIATES

Date: JAN 8 1992

Ms. Edie L. Vinson, Chief
Environmental & Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

Dear Ms. Vinson:

This is in response to your December 16, 1991, letter concerning the proposed reconstruction of U.S. Highway 2 - Columbia Heights Hungry Horse.

Hungry Horse District Ranger Allen Christophersen has reviewed the project proposal on the ground to determine the potential impacts to the Middle Fork of the Flathead River, which is designated as Recreation in the Wild & Scenic Rivers system. The only portion of the project to be located within the Wild & Scenic River Corridor is in the extreme southwest corner of Section 6 (Government Lot 14, 0.64 acres). The proposed reconstruction within the Corridor is located away from the Middle Fork. A copy of the District Ranger's March 12, 1991, letter to Mr. Robert Newhouse is enclosed for reference.

We do not believe that a Section 7(a) determination is required for the proposed bridge reconstruction. The bridge site is not within the Wild & Scenic Corridor, and the reconstruction will not effect the portion of the Middle Fork of the Flathead River designated as Recreation.

James A. Lawrence
JOHN M. HUGHES
Acting Regional Forester

Enclosure

cc:
WRCR - T. Donahue
FLHD - L. Reesman, R. VanNatta
E - B. Harper

Date Recd.	Preconst	MAIL ROUTE	Initial
		30 Preconst Engr	
		30 Assistant	
		30 Office Mgr	
		31 Safety Mgmt	
		32 Road Design	
		33 Environment	
		34 Hydraulics	
		35 Survey & Mapping	
		36 Traffic Eng	
		37 Traffic Operations	
		39 Consultant Dan.	



United States Department of the Interior

FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
FEDERAL BUILDING, US COURTHOUSE
301 S PARK, P O BOX 10023
HELENA MT 59626

IN REPLY REFER TO:

March 24, 1992

Duane C. Lewis
Assistant Division Administrator
U.S. Department of Transportation
Federal Highway Administration, Montana Division
301 So. Park Street, Room 448
Helena, Montana 59626

Dear Mr. Lewis,

This is the Fish and Wildlife Service's (Service) Biological opinion prepared in response to the Federal Highway Administration, Montana Division, December 20, 1991 request to initiate formal consultation under Section 7 of the Endangered Species Act of 1973 as amended (Act) for Project F1-2(39) 138 Reconstruction of U.S. Highway 2 between Columbia Heights and Hungry Horse, a River Access site and exhibit area and construction of a new bridge in Flathead County, Montana. Your December 20, 1991 letter was received by this office on December 23, 1991. The Service has examined the proposed project in accordance with the Section 7 Interagency Cooperation Regulations (50 CFR 402, FR 51(106):19957-19963). This biological opinion refers only to the potential effects on the bald eagle and not the overall environmental acceptability of the proposed action.

BIOLOGICAL OPINION

It is the Service's biological opinion that implementation of the proposed reconstruction project is not likely to jeopardize the continued existence of the Pacific bald eagle (*Haliaeetus leucoccephalus*) Population. The Service also concurs with the conclusions in the Federal Highway Administration's Biological Assessment that the project will not adversely affect the endangered gray wolf (*Canis lupus*) and peregrine falcon (*Falco peregrinus*) and the threatened grizzly bear (*Ursus arctos horribilis*).

PROJECT DESCRIPTION

The proposed action is the reconstruction of U.S. Highway 2 between Columbia Heights and Hungry Horse in Flathead County, Montana. The reconstruction consists of making the two lane highway into a 64-foot-wide four-lane highway consisting of four 12-foot driving lanes and two 10-foot shoulders. The project is located on U.S. Highway 2 between Columbia Heights and Hungry Horse in Flathead County, Montana. The project begins east of Columbia Falls near the intersection of U.S. 2 and Secondary Route 206 and extends northeasterly for some 4.4 miles across the South Fork of the Flathead River to Hungry Horse. From the project beginning at milepost (MP) 138.3 to about MP 140.5 the existing highway passes through suburban and rural residential development. Columbia Heights contains a small but densely developed commercial strip. The highway enters Badrock Canyon at about MP 140.5, where it parallels



or is adjacent to the main stem of the Flathead River for two miles. The road crosses the South Fork of the Flathead River just west of Hungry Horse. In Badrock Canyon, U.S. Highway 2 passes through a moderately thick forest with the steep north slope of Columbia Mountain to the south of the highway and the main stem of the Flathead to the north. A riprap fill, placed during previous improvements on U.S. 2, encroaches on the river for 1/2 mile adjacent to Berne Memorial Park. A strip of vegetation between the river and the highway near Berne Memorial Park in the Canyon supports mature cottonwoods and conifers. A supplemental discussion of impacts was provided to the Service on December 20, 1991, which describes Montana Department of Transportation (MDT) additional proposals to develop a river access and a historic exhibit area on approximately nine acres of land located next to the House of Mystery and construction of a new bridge over the South Fork of Hungry Horse. The new four-lane structure would be constructed parallel to and slightly downstream from the existing bridge.

CURRENT STATUS OF THE SPECIES

The bald eagle is listed as endangered in 43 of the 48 conterminous United States. The bald eagle population in Montana is listed as endangered. Montana falls within the Pacific States Bald Eagle Recovery Plan area (U.S. Fish and Wildlife Service 1986). The primary objective of the Bald Eagle Recovery Plan is to outline steps that will provide secure habitat for bald eagles in the 7-state Pacific recovery area and increase populations in specific geographic areas to levels where it is possible to delist the species. Reclassification from the bald eagles current endangered status should occur on a regionwide basis and should be based on four criteria. First, a minimum of 800 pairs nesting in the 7-state recovery area. Second, these pairs should be producing an annual average of at least 1.0 fledged young per pair, with an average success rate per occupied site of not less than 65% over a 5-year period. Third, population recovery goals must be met in at least 80% of the management zones with nesting potential. Finally, a persistent, long term decline in any sizeable (greater than 100 birds) wintering aggregation would provide evidence for not reclassifying the species. In 1990, 861 pairs were located in the seven-state recovery area and wintering populations appear to be stable or slightly increasing.

The management zone approach is central to the recovery process because establishment of well-distributed eagle populations and habitats is important to recovery of the species in the Pacific recovery area. Seven bald eagle management zones were identified for Montana in the Bald Eagle Recovery Plan and Montana Bald Eagle Management Plan (Montana Bald Eagle Management Plan 1986). Implementation of recovery actions and achievement of goals are applied on a zone-by-zone basis. The project area lies within zone 7 Upper Columbia Basin of the Recovery Plan.

The bald eagle may live up to 45 years, achieve sexual maturity at 4-5 years, and produce 1-3 young per year. Publications by U.S. Army Corps of Engineers (1979), Lincer et al. (1979), Brown and Amadon (1968), and Snow (1973) provide references on the biology of the species. What is known of the biology and behavior of the bald eagle in Montana is generally consistent with the literature. Bald eagles occur year-round in Montana, but their numbers fluctuate dramatically between seasons. The greatest numbers occur during the spring and fall migration periods. Migration peaks during March and November when large numbers of bald eagles move through the state to and from more southerly wintering areas. Between 1980 and 1990 number of eagles counted during winter surveys ranged from 290 to 620 with an average of 420 counted per year. Adult to immature ratio averaged 2.7:1 (Flath et al. in prep.).

Bald eagles wintering in Montana tend to congregate near bodies of water. Major river drainages and large lakes constitute the majority of winter habitat use. Open water and food availability dictate areas of use throughout the winter months. Upland areas may receive considerable use when carrion is available. During migration and at wintering sites, eagles that concentrate on locally abundant food tend to roost communally. Communal roosts usually are located in stands of mature or oldgrowth conifers or cottonwoods, and roosts may be several miles from feeding sites.

Nesting chronology in Montana is well documented. Nest maintenance and construction occurs during winter months. Eggs are laid between late February and late April, with peak laying during early March. Fledging dates vary accordingly, with most fledging about mid-July. Little is known of post-fledging behavior in Montana. Bald eagles nested in stands of mature or over-mature timber with old growth characteristics near significant water bodies. Wright and Escano (1986) described nest site characteristics for Montana. Most nests are located in timber stands three acres or larger with canopy closure of less than 80 percent. Live trees most often selected are ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*) and cottonwood (*Populus* sp.). Snags of these species are also utilized. Most nests are in mature or over-mature dominant or co-dominant trees with open crowns and sturdy horizontal limbs. Most nests are found on flat to moderately sloping terrain with northern aspects and in line of sight to a lake or reservoir greater than 80 acres in size, or fourth order or larger stream. All nests are within one mile of a water body with and adequate food supply.

Comprehensive surveys to determine the status of bald eagles in Montana began in 1980, but preliminary database was compiled from data gathered earlier. The nesting population grew an average of 14.5% per year from 25 viable territories to 108 between 1980 and 1990. Increase was comprised of both known age and unknown age territories. Mean brood size for the decade was 1.812. Number young fledged increased from 29 in 1980 to 130 in 1990. Percent nesting success and productivity of bald eagles was positively correlated with age of the nesting territory. In 1991, 63 active territories were found in the Upper Columbia Basin zone. Of the 63 active territories 55 were successful producing 94 young.

BASIS OF OPINION

Environmental Baseline

Studies of bald eagle migration and habitat use during the past 14 years have clearly documented the use of the Flathead River, including Badrock Canyon, as a major flyway and foraging area for eagles (Young 1983, McClelland P.T. in prep.). Based on review of the project area, Flath (personal communication) reported that bald eagles occur on a year-round basis and that in addition to winter and migration habitat sufficient foraging habitat is present to accommodate summer non-breeders and perhaps an additional nesting territory in the future. On December 4, 1985 McClelland reported 41 eagles between the House of Mystery and Hungry Horse Reservoir. At least 7 bald eagle roosts have been identified on the east side of Columbia Mountain. Many of the eagles from these roosts use the river corridor in the project area. Potential nesting habitat exists within the project area. The Flathead River and riparian habitat corridor associated with the river in the project area are considered year-round bald eagle habitat.

DIRECT EFFECTS

New South Fork River Crossing - Minor amounts of riparian vegetation would be cleared to accommodate the construction of the new bridge (0.35 acres of riparian cottonwoods and conifers on the west side of the South Fork, immediately north of the existing bridge). The riparian area affected by the proposed bridge construction is unvegetated within the floodplain of the South Fork and is bordered by a narrow (75-100 feet wide) stand of riparian cottonwood and conifers. Similar vegetation in the Badrock Canyon is used as perching and foraging sites for bald eagles.

Proposed River Access Site - The construction of the boat ramp will require that an area of riparian vegetation approximately 40 feet by 80 feet be cleared to accommodate the new ramp to the river. This construction would produce a 40 footwide disruption in the continuous screen of riparian shrub vegetation dominated by willows, reedster dogwood, Rocky Mountain maple, and alder. Additionally, construction of a vehicle parking area and an access road to the boat ramp would require the clearing of an area some 50 feet by 300 feet from the same vegetation community. The total required clearing at this site is estimated to be 0.4 acres.

Highway Reconstruction - The proposed road construction would remove riparian vegetation that serves as perching sites and provides screening for eagles to forage along the river bank. Construction of this four-lane alternative would remove trees and other vegetation from an estimated 2.7 acres of riparian cottonwood and conifer habitat that exists between Berne Road and Hungry Horse. MDT will incorporate 1.5:1 fill slopes into the design of the proposed action in Badrock Canyon which will encroach on the Flathead River.

Primary Direct Effects - The proposed action would directly affect bald eagles due to habitat modifications by removing perch, screening, foraging and potential nesting vegetation from the river bank in Badrock Canyon, the proposed River Access Site and Bridge Construction area. Other direct effects such as disturbance and displacement would also result from construction activities as the project area is considered year-round bald eagle habitat.

Indirect Impacts - One of the greatest indirect impacts of the proposed action would be the potential for inducing human population growth and increased recreation use due to the improved access and facilities provided by the project. Assuming that commercial access is improved and enhanced, strip commercial and private development along the river associated with tourism could increase causing more people to move to the area. The proposed action has the potential to accelerate and concentrate growth and recreational use in the project area. Loss of screening vegetation would result in increased disturbance to bald eagles in the project area. Human disturbance can seriously affect bald eagles during nesting, wintering and migration seasons. Eagles may react to people walking, bicycling, driving vehicles or snowmobiles, boaters stopping near nests or passing near feeding sites, blasting, shooting, tree-harvesting operations, or operation of loud equipment (Knight 1984, Magaddino 1989, Harnata in prep.). These activities can disrupt breeding and feeding activities, force eagles to desert a nesting territory or potential nesting habitat, or displace eagles to less desirable habitats. Wintering, migrating and nesting eagles may be unduly stressed by human activities if their feeding or normal social behavior is disrupted. Eagles on the ground, whether feeding or standing, are more sensitive to disturbances, and eagles will fly greater distances when flushed from river bars or banks than when flushed from trees (Knight 1984). Human disturbance may also

disrupt use of communal roosts, or displace birds to less suitable habitat (Stalmaster 1987). Bald eagles are less likely to be disturbed by human activities which are screened by vegetation (Stalmaster and Newman 1978). Although loss of screening vegetation will only occur on the highway side of the river, this loss will preclude bald eagle use in the areas across from, within and adjacent to the areas proposed for vegetation removal.

CUMULATIVE EFFECTS

Cumulative effects are those effects of future State or private activities on endangered and threatened species or critical habitat that are reasonably certain to occur within the action area of the Federal action subject to consultation. Future Federal actions will be subject to the consultation requirements established in Section 7 and, therefore, are not considered cumulative in the proposed action.

The continued fragmentation of habitat and loss of riparian vegetation due to vegetation removal may eventually affect the eagles ability to adequately use the prey base or other important habitat features. The Montana Bald Eagle Management Plan emphasized that even though bald eagle populations have increased in recent years, the continued alteration and removal of suitable habitat due to human activities may affect the long-term success of recovery efforts. McClelland, in his letter of May 7, 1991 to MDT, states that although bald eagle nesting success in Montana has shown some encouraging signs in recent years, we continue to "whittle away" at remaining habitat. McClelland further points are that the whittings are cumulative and this is a long-term concern in relation to migrating eagles as well as those that nest in the state which will ultimately effect the long term recovery of the bald eagle in Montana.

Habitat fragmentation and loss of riparian habitat would be expected to continue as secondary development in the project corridor could create a demand for new public services and facilities. Tourism and the resident population in northwestern Montana have increased in recent years. Flathead County population grew approximately 14% during the period 1980-1990 and was considered one of fastest growing counties in the state. Year-long distribution of visitors and types of recreational pursuits have changed from seasonal peaks, mainly spring, summer and fall, to year-round activity. Residential and recreation homesites are also increasing in northwestern Montana. Development in floodplains has, and will continue to have, a cumulative impact on bald eagles through loss of habitat and continued displacement due to human disturbance.

The Service does not believe that the direct, indirect and cumulative effects of the proposed project would reduce appreciably the likelihood of both survival and recovery, or alter appreciably the habitat of the Pacific Bald Eagle Population in the wild by reducing the reproduction, numbers, or distribution of the species.

INCIDENTAL TAKE

Section 9 of the Act, as amended, prohibits any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing

behavioral patterns such as breeding, feeding, or sheltering. Under the terms of Section 7(b) (4) and Section 7(0)(2), taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act provided that such taking is in compliance with the incidental take statement. The Service does not anticipate that the proposed action will result in any incidental take of the bald eagle. Accordingly, no incidental take is authorized. Should any take occur, the Federal Highway Administration must reinitiate formal consultation with the Service and provide a description of the circumstances surrounding the take. The incidental take statement provide in this opinion satisfies the requirements of the Endangered Species Act, as amended. This statement does not constitute an authorization for take of listed migratory birds under the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act or any other Federal statute.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term conservation recommendations has been defined as Service suggestions regarding discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information. The recommendation provided here relates only to the proposed action and does not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibility for this species.

1. A study should be undertaken by the Montana Department of Transportation to evaluate enhancement opportunities and/or purchase of riparian and riverine habitats within the project area.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

CONCLUSION

This concludes formal consultation on this action. Reinitiation of formal consultation is required if the amount or extent of incidental take is exceeded, if new information reveals effects of the action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion, if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion, or if new species is listed or critical habitat designated that may be affected by the action.

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- Young, L.S. 1983. Movements of bald eagles associated with autumn concentrations in Glacier National Park. M.S. thesis. University of Montana, Missoula, Mt. 102 pp.

Your cooperation and assistance in meeting our joint responsibilities under the Endangered Species Act are appreciated.

Sincerely,


Dale R. Harms
State Supervisor
Montana State Office

cc: ARD, FWE, FWS Denver Co.
AFWE/EHC, Washington, D.C.
Chief, Environmental Bureau, Montana Dept. of Transportation, Helena, Mt.

7



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Ref: 8MO

May 21, 1992

Mr. Daniel M. Norderud
Transportation Planner
Robert Peccia & Associates
P.O. Box 5653
825 Custer
Helena, Montana 59604

RECEIVED
MAY 21 1992

MAY 21 1992
ROBERT PECCIA
& ASSOCIATES

Re: Federal Aid Highway Project
Columbia Heights-Hungry Horse
Project F 1-2 (39) 138
Environmental Impact Statement

Dear Mr. Norderud:

This is in response to your letter of May 19, 1992 requesting the U.S. Environmental Protection Agency (EPA) provide comments or concerns on the above-referenced project.

The EPA appreciates this coordinated effort to address our concerns prior to the issuance of the Draft Environmental Impact Statement (DEIS). The EPA will, however, reserve any comment until the DEIS can be fully reviewed.

If you have any questions or we can be of assistance, please feel free to contact Jeff Bryan of my staff at 406 449-5486.

Sincerely,


John F. Wardell, Director
Montana Office

cc: Bill Engle, 8MO



RECEIVED
U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DEC 23 1990
GLACIER NATIONAL PARK
WEST GLACIER, MONTANA
(406) 888-5441
FAX: (406) 888-1381

IN REPLY REFER TO:

ROBERT PECCIA
& ASSOCIATES

December 19, 1990

Mr. Robert R. Newhouse
Consultant Design Engineer
State of Montana, Dept. of Highways
2701 Prospect Avenue
Helena, Montana 59620

Dear Mr. Newhouse:

Thank you for meeting with Bob Dunkley and Brace Hayden last week to discuss revisions to the Preliminary Draft Environmental Impact Statement and Draft Biological Assessment for the Columbia Heights-Hungry Horse, F 1-2 (39) 138, section of U.S. Highway 2.

The following are our revised comments:

1. The statement of need should be strengthened to make a more convincing case for upgrading this segment of highway. Problems with safety, congestion, and inconvenience should be referenced in addition to the need to meet design standards and a higher level of service.
2. A stronger justification for selection of the preferred alternative (alternative 2) should be provided given the considerable public support for a two-lane alternative shown during the scoping process for this project. A clearer comparison of the differences between alternatives 2 and 3 should be presented in light of the fact that the former provides many of the stated objectives for this project while placing less fill in the river, less cut into the hillside, and imposing less of a barrier to wildlife movements.

3. Strip development along Highway 2 is a significant issue for the management of Glacier National Park and for many of the park visitors. Furthermore, there is a high public expectation that scenic values be considered on a par with other objectives in highway planning. Improvements made to the highway between Hungry Horse and West Glacier have undoubtedly been one factor contributing to the hastening of strip development along the corridor.

The 1982 Scenic Beautification Plan for the earlier Highway 2 reconstruction project included a program to purchase scenic easements along the highway corridor. However, few such easement were ever purchased and it is our understanding that these funds were later allocated to other highway projects. We hope that follow through on any similar efforts associated with this project are more successful.

To the credit of the MDOH, FHWA and USFS, an effort is being made to preserve the scenic qualities of the Berne Park area by purchasing the total land holdings of the Simpson and Clark Trust in the project area. We strongly support this effort and find it to be consistent with statements made in the Flathead County Master Plan which establishes as a policy "discouraging additional commercial development within the planning jurisdiction along Highway 2". The Master Plan also encourages the "development of viable, compact rural commercial centers located in existing communities".

We also encourage the incorporation of measures such as buffer plantings, increased right-of-way limits, underground utilities and acquisition of additional scenic easements as part of this project.

4. We suggest that a park-and-ride facility at Columbia Heights be included in the scope of this project. Such a facility would be a service to the more than 100 permanent and seasonal employees of the park that live beyond Columbia Heights, many of whom carpool. Forest Service and private sector employees would also benefit from such a facility. The advantages of providing for and encouraging carpooling include energy conservation, reducing the number of vehicles on the highway and cost savings for the users.

6. Of the three alternatives for replacement of the Berne Park facility and provision of a river access site, we prefer the one that consolidates the facilities at the most downstream site. This will reduce the number of entrances on the highway and will improve safety, and ease of access. It will also lend itself to combined use of support facilities such as toilets and trash receptacles.

8. We disagree with statements made in the biological assessment that eagle use along this segment of the highway is declining and that perching trees are plentiful. We feel that the loss of perching or roosting trees in this area is significant. We encourage you to discuss this issue with park biologists by contacting either Gary Gregory or Riley McClelland at 888-5441.

We appreciate this opportunity to provide our comments on the document and for participating as a cooperating agency. Should you have any questions, please contact Mr. Brace Hayden of our staff at 888-5441.

Sincerely,

Brace Hayden

H. Gilbert Lusk
Superintendent

cc: RMR-PP, Mr. Gardner
RMR-MR, Mr. Schiller
Al Christopherson, District Ranger, Hungry Horse, R.D.



United States
Department of
Agriculture

Forest
Service
(406) 387-5243

Hungry Horse Ranger District
PO Box 340
Hungry Horse, MT 59919-0340

Reply to: 1580

Date: March 12, 1991

RECEIVED

MAR 22 1991

Mr. Robert Newhouse
Montana Department of Highways
2701 Prospect Avenue
Helena, MT 59620

ROBERT PECCIA
& ASSOCIATES

Dear Mr. Newhouse

The Columbia Heights - Hungry Horse Highway Construction Project F1-2(39)138 will cross a small portion of the Middle Fork of the Flathead Wild and Scenic River Corridor. With this in mind, I felt it appropriate to offer additional comments concerning potential impacts to the Recreational River Corridor. The land within the Corridor which may be effected by the Project is within the Hungry Horse Ranger District, Flathead National Forest lying within Lot 14 in the extreme south west corner of Section 6, Township 30 N, Range 19 W, MPM. This tract is approximately 0.64 acres in size. The following comments are relative to this tract of land which is within the boundary of the Wild and Scenic River Corridor and to other project activities that have the potential to effect values in the Wild and Scenic River Corridor.

Background

The Project proposal is to reconstruct US Highway 2 from Columbia Heights to Hungry Horse. A small portion of the project is on National Forest land. The existing highway has been in place on an established right-of-way since the 1930's. On Forest land the project will entail constructing a bridge across the South Fork of the Flathead and reconstructing the Highway adjacent to the South Fork for a distance of approximately 2600 feet to the Forest boundary. The South Fork joins the Middle Fork of the Flathead Wild and Scenic River approximately one half mile below the proposed bridge. Within the Middle Fork Wild and Scenic River Corridor, construction activities will be within the existing right-of-way. Alternatives being considered range from an improved two lane design to a four lane facility. A no action alternative is also being considered. Within the river corridor impacts from action alternatives will be similar except that construction of the four lane facility will involve an additional ten feet of land each side of center line.

Free Flowing Status

None of the alternatives will alter the free flowing status of the Middle Fork of the Flathead Wild and Scenic River. There will be no construction in or in close proximity to the channel of the Middle Fork.

Water Quality

Along the South Fork of the Flathead River a vegetative screen will be maintained between the river and the construction project. This screen will reduce the possibility of road construction sediment reaching the South Fork and eventually the Middle Fork Wild and Scenic River. Construction of the bridge may introduce sediment to the South Fork which could eventually reach the Middle Fork Wild and Scenic River. By following accepted construction practices for riparian areas, sediment production can be minimized. The State Department of Highways will obtain appropriate permits from the Corps of Engi-



neers and state agencies to further insure that potential impacts to water quality are mitigated. Any reduction of water quality in the Wild and Scenic River will be minimal and short term. Long term water quality will not be effected.

Recreation

Lands within the Wild and Scenic River Corridor effected by this project receive little recreation use other than by people traveling through the area on the highway. Any action alternative will disrupt highway related recreation during the construction period. Other land based activities will not be significantly effected by the project.

At the present time float use on the Middle Fork Wild and Scenic River, in the vicinity of the project, is light due to the lack of a suitable take out point. Those people who do use the river may be impacted by the sights and sounds of construction activities. These impacts are short term and not significant. If an action alternative is selected, and if a new river access site is constructed as a part of the mitigation for the impacts to the Berne Park area, recreation opportunities on the Wild and Scenic river will be enhanced.

There is a very limited amount of floating use on the South Fork (which is not a classified river) as it runs through the River Corridor to the confluence with the Middle Fork. These river users will be impacted by the short term sights and sounds of construction. None of their launch points will be impacted by the project. There are no safe or accepted take out points within the project area. Floating opportunities on the South Fork will be enhanced by the construction of the new river access site.

Cultural Resources

There are no known cultural resource sites within the portion of the Wild and Scenic River Corridor that will be effected by the project.

Geology

The surface geology within that portion of the Wild and Scenic River Corridor impacted by the project is not unique from a scientific standpoint and does not contribute significantly to the scenic qualities of the area. The massive rock outcrops that are a prominent geologic feature of Bad Rock Canyon are outside and down stream of the Wild and Scenic River Corridor. Disturbance to these features would not be visible from the Corridor.

Fish and Wildlife

Other than the potential for minor short term sedimentation from construction activities, there will be no impacts to fisheries in the Wild and Scenic River Corridor.

Wildlife use in the River Corridor adjacent to the project area is limited. The small size of the tract (0.64 acres) makes it generally insignificant from a wildlife standpoint.

The Corridor and adjacent Forest lands south of the project area are classified as Situation 2 Grizzly Bear Habitat. By definition Situation 2 areas are lands that lack distinct grizzly population centers, where highly suitable habitat generally does not exist. There are no known grizzly travel routes within the River Corridor nor has bear presence been documented in the area.

The River Corridor is also within essential Bald Eagle habitat. Eagles are known to use the area as a migratory flyway during the fall and early winter. A few eagles have been observed wintering in the general project area. They may make some use of the River Corridor. There are no known nest sites in the area. Within the Corridor, the proposed highway construction is away from the water so there will be no impacts to perch sites.

Other Unique Features

There are no other special or unique features within the Middle Fork Wild and Scenic River Corridor that will be adversely effected by the project.



Summary

Other than the short term impacts cited above, the proposed project should have no significant impacts to the Middle Fork of the Flathead Wild and Scenic River Corridor.

Sincerely,

Allen L. Christophersen
ALLEN L. CHRISTOPHERSEN
District Ranger

CC: R. Vanetta, SO



REPLY TO
ATTENTION OF

Planning Division

Mr. David C. Miller
Federal Highway Administration
Montana Division
301 S. Park
Drawer 10056
Helena, Montana 59626

Dear Mr. Miller:

The Draft Environmental Impact Statement (DEIS) on the Columbia Heights-Hungry Horse reconstruction of U.S. Highway 2 between Columbia Heights and Hungry Horse has been reviewed.

Our particular responsibility as a cooperating agency in the preparation of this document is ensuring that it satisfies our Section 404 permitting requirements. This DEIS generally does a fine job of addressing the environmental consequences of the proposed action and fulfilling necessary requirements of a DEIS.

Please note the following comments:

- a. Statement on section 404 permit requirements (p. 5-6) should be revised as follows: If the proposed action ... Issue the appropriate Section 404 permit before there is any placement of fill ...
- b. The alternatives analysis apparently covered all practicable alternatives. It seems reasonable to continue the four-lane highway through this corridor. The existing two-land roadway through the canyon can be a traffic bottleneck, especially during the tourist season.
- c. The rock prominences in the canyon are unique features and the disturbance on them from the preferred alternative should be minimized.
- d. Wetland mitigation (p. IV-18): The Draft EIS should include a thorough mitigation plan, if possible. Mitigation plans for the fill into the Flathead River should be more detailed when the permit application is submitted for the wall and bridge.

Sincerely,

RECEIVED
1991 APR -1 AM 9:24
MONTANA DIVISION

Gerard E. Mick
Gerard E. Mick
Chief, Environmental
Analysis Branch
Planning Division

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
315 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

March 28, 1991





Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

NOV 13 1992

RECEIVED

NOV 22 1992

DEPT. OF NATURAL
RESOURCES & CONSERVATION

BY MAIL MAIL NO. EFBG

Mr. Kevin Hart
State of Montana
Department of Natural Resources and Conservation
1520 East Sixth Avenue
Helena, MT 59620

Dear Kevin:

This letter is to confirm our telephone conversation regarding the role the State of Montana's Department of Natural Resources and Conservation (DNRC) will have in the Hungry Horse-Columbia Falls Line Rebuild Project.

PROJECT DESCRIPTION

Bonneville Power Administration (BPA) has identified a need to improve the electric reliability of the existing 115,000-volt (115-kV) transmission system which supplies power to the Columbia Falls area loads. The current system runs the risk of overloading under certain operating conditions. BPA is proposing to rebuild the existing single-circuit 115-kV line to 230-kV single-circuit between Hungry Horse Dam to the Columbia Falls substation, a distance of about 8 miles. The construction of this project would be completed in two phases. Phase I would involve (1) building the 230-kV line from the Hungry Horse switching station to Columbia Falls Substation; (2) building a temporary line from the dam to the new 230-kV line; and (3) removal of the existing 115-kV line from the dam to Columbia Falls Substation. The line would operate at 115 kV capability until Phase II. Phase II will be completed when the Bureau of Reclamation (BOR) budgets for the upgrade at the Hungry Horse switching station. It involves the (1) installation of a new bay at Hungry Horse switching station (BOR action); (2) removal of the temporary line from the dam to the new 230-kV line; (3) re-termination of the 230-kV line at the Hungry Horse switching station; and (4) removal of a 115-kV structure, addition of a 230-kV structure, and restringing the line from the structure to the Columbia Falls Substation. A combination of new 230-kV line and existing 230-kV line will be used to avoid the lines crossing each other. See attached photo and map for further details and explanation.

The environmental assessment is in the early stages of being prepared. BPA has conducted field reviews of the proposed route, and resource specialists have gathered the necessary data and are preparing the impact analysis for the following resources: wetlands, health and safety, agriculture, soils, visual, threatened and endangered species (plants and wildlife), other wildlife, cultural resources, water quality, floodplains, recreation, undesirable plants, and local zoning. As we discussed, the project may necessitate actions by other state agencies, in which case we would need

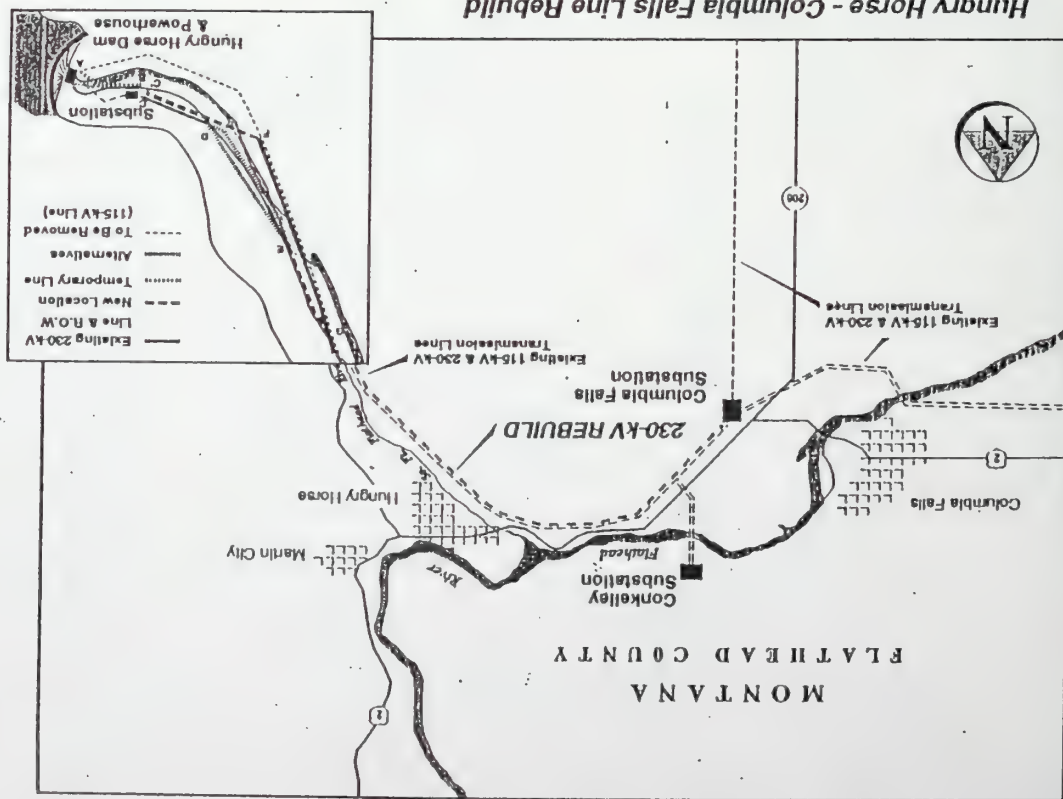
to be in compliance with state laws and regulations. Montana DNRC's role would be to contact the various Montana state agencies (you had mentioned the Montana Department of Health and Environmental Sciences and the Department of Transportation), facilitate discussions with them, and perform liaison duties for input from them. We will also be asking DNRC to review the draft working papers and provide comments at that time.

We are hoping to have the draft EA ready to go out for review in late December. We would appreciate your comments and those from state agencies no later than December 11, 1992.

If you have any further questions regarding the project, please feel free to call. We appreciate your support and involvement in this project.

Sincerely,

Leslie Kelleher
Environmental Specialist



Hungry Horse - Columbia Falls Line Rebuild

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DATE REC'D 12-4-92

MAIL ROUTE

ATTACH

30 Assistant

30 Office Mgr

31 Safety Mgmt

32 Road Design

33 Environment

34 Fisheries

35 Survey & Mapping

36 Wildlife

37 Traffic Operations

38 Conservation Div.

39 Planning

40 Public Affairs

41 Administration

42 Information Systems

43 Training

44 Research

45 Policy Development

46 Legal

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The Department of Natural Resources and Conservation (DNRC) is participating with Bonneville Power Administration (BPA) in the preparation of an environmental assessment (EA) for the proposed rebuild of 8 miles of electric transmission line between Hungry Horse Dam and the Columbia Falls Substation. DNRC is participating in this joint effort at BPA's request to facilitate preparation of a single NEPA/NEPA document to satisfy the permit needs of federal and state agencies.

The proposed project would replace an aging 115-kV transmission line with a new 230-kV line. The construction would require some relocation of an existing 230-kV line and removal of the old 115-kV line, resulting in two parallel 230-kV lines between the dam and the Columbia Falls Substation. This action would improve the present siting of lines in this area by eliminating lines crossing one another and reducing the total number of river crossings. The proposed action would be completed in two phases timed to allow for the Bureau of Reclamation's upgrade of the Hungry Horse switching station located downstream of the dam. A brief description of the project is enclosed.

This letter is to begin state agency coordination for this project and to identify the information your agency would like to see documented in the EA or provided separately. I would appreciate your review of the attached information and a reply by December 11. After the EA is prepared, I will forward a copy to you for review within your agency. If you have questions or would like additional information, please call me at 444-6795.

Sincerely,
Kevin Hart
Environmental Program Manager
Energy Division

KJH/jb
c: EQC
OBPP
Governor's Office
Attachment (1)

CENTRALIZED SERVICES
1001 144-6798

CONSERVATION & RESOURCE
DEVELOPMENT DIVISION
1001 144-6797

ENERGY
DIVISION
1001 144-6797

OIL AND GAS
DIVISION
1001 144-6791

WATER RESOURCE
DIVISION
1001 144-6791



WASIER FILE
COPY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

REPLY TO
ATTENTION OF

September 2, 1992

Planning Division

Mr. David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
2701 Prospect Avenue
Helena, Montana 59620

Dear Mr. Johnson:

We have reviewed the U.S. Highway 2-Columbia Heights to Hungry Horse Project Fl-2(39)138 Draft Environmental Impact Statement (DEIS).

The proposed project is within the regulatory jurisdictional boundaries of the Omaha District of the Corps of Engineers; and therefore, one of our particular responsibilities in reviewing this document is ensuring that it adequately addresses any Section 404 issues.

On page S-6 of the document, it is stated that before any fill is placed in the Flathead River, a Section 404 permit must be issued. This sentence should also include that before any fill is placed in any wetland or waterway of the United States, a Section 404 permit must be issued. In addition, it is recognized on this page that a 404(b)(1) Evaluation will need to be prepared. This evaluation should be prepared and attached as an appendix to the Final DEIS. A standard format for a Section 404(b)(1) Evaluation is enclosed for your reference.

On page III-11 of the DEIS, it is noted that a document "evaluating the importance of each affected wetland, the severity of the impact, and measures to avoid or minimize harm to wetlands is on file with MDT in Helena." On page IV-18, it is stated that mitigation for impacts to wetlands will be reassessed once MDT has redelineated wetlands in the project area and that the findings of this reassessment will be incorporated into the Final EIS. A detailed mitigation plan should be developed and included as part of the Final DEIS, so that comments may be provided regarding planned mitigation strategies.

Because it appears that there will be unavoidable impacts to wetlands and waterways of the United States due to the proposed project, coordination with the Corps of Engineers Regulatory Field Office in Helena, Montana should continue.

9-29-92

Date Recd.	Preconst	MAIL ROUTE
10/10	Act	
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		30 Assistant
		30 Office Mgr
		31 Safety Mgmt
		32 Road Design
		33 Environment
		34 Hydraulics
		35 Survey & Mapping
		36 Traffic Eng
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		39 Consultant Dtn
		UT Weaver
		Legal
		D Paulsen - FHWA
		File
		RPA

RECEIVED
SEP 30 1992
CIVIL ENGINEERING
PLANNING DIVISION

RESPONSE TO COMMENTS ON DRAFT EIS
Department of the Army Corps of Engineers (Omaha)
Richard D. Gorton, Chief, Environmental Analysis Branch
Planning Division (9/2/92)

1.

RESPONSE: This sentence was revised for the Final EIS to read as follows:

If the proposed action advances to the design stage, the U.S. Army Corps of Engineers must issue the appropriate Section 404 permit before there is any placement of fill in the Flathead River system or any wetland in the project area.

The text discussing water quality in the Final EIS has been revised to better reflect considerations outlined in the Section 404 (b)(1) Guidelines. The proposed action's impacts relative to 404(b)(1) considerations has been included in a separate appendix in the Final EIS.

2.

RESPONSE: MDT's reassessment of wetlands in the project corridor according to WET II procedures allows mitigation efforts to be based on the values and functions that each wetland provides rather than solely on the acreages lost or affected. A plan identifying MDT's proposed mitigation strategies for wetland impacts is included in the Final EIS.

3.

RESPONSE: The Corps of Engineers is a Cooperating Agency for this EIS and coordination with the agency will continue through the permitting stage of the proposed action.

The proposed project site is within the civil works jurisdictional boundaries of the Seattle District, and therefore, this office does not have access to the Flood Insurance study maps to verify floodway location. However, based on the report, we offer the following comments regarding flood plain issues.

On page III-4, in the fifth paragraph, it is stated, "None of the existing alignment falls within the area designated by Flood Emergency Management Agency as floodprone." Figure 14 does not agree with this statement, as the alignment crosses the South Fork of the Flathead River.

The text states that the build alternative will have a minimal effect on the 100-year flood and flood plain. Within designated floodways, this impact is supposed to be zero.

If you have not already done so, the Seattle District of the Corps of Engineers should also be consulted regarding flood plain concerns. This office may be contacted through:

Mr. William Spurlock
Chief, Flood Plain Management Branch
U.S. Army Engineer District, Seattle
4735 East Marginal Way South
Seattle, Washington 98134

Thank you for the opportunity to review this document. If you have any questions, please contact Ms. Julie Swoboda of our staff at (402) 221-4895.

Sincerely,



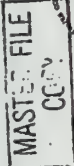
Richard D. Gorton
Chief, Environmental
Analysis Branch
Planning Division

4. **RESPONSE:** The proposed alignment for the new bridge across the South Fork of the Flathead River crosses an area designated as the approximate 100-year flood boundary on FEMA's Flood Boundary and Floodway Map. This area delineates the 100-year floodplain, not a FEMA-designated floodway. The statement on page III-4 was revised to correctly identify that the 100-year floodplain is crossed by the proposed action.

5. **RESPONSE:** The floodplain analysis conducted for the Draft EIS was reviewed based on this comment. The analysis showed that depending upon the river location, build alternatives incorporating a riprap fill would result in no change in 100-year flood elevations or would reduce 100-year flood elevations by 0.03 to 0.06 feet. The text of the Final EIS was modified to clarify this impact.

Comments on the Draft EIS suggested that measures to reduce the encroachment on the Flathead River in Badrock Canyon be investigated. In response to these comments, a variety of design options (such as steepened embankments, vertical retaining walls, and building the road on a cantilevered structure or piers) were examined for the Final EIS. These measures were shown to provide substantial reductions in the amount of fill material below the ordinary high water mark. This also suggests that such measures would not change the elevation to the 100-year floodplain in the project area.

6. **RESPONSE:** Copies of Mr. Gorton's letter and the Draft EIS/Section 4(f) Evaluation were forwarded to Mr. William Spurlock, Chief, Flood Plain Management Branch, U.S. Army Corps of Engineers on December 1, 1992. To date, no comments have been received from Mr. Spurlock.



Planning Division

Reference: Columbia Heights - Hungry Horse EIS
US 2 Reconstruction, Flathead County, MT
Project NH 1-2 (68) 138, Control No. 1290

Thank you for the opportunity to review your responses to our September 2, 1992 letter in which we commented on your Draft Environmental Impact/Section 4(f) Evaluation for US 2 Reconstruction in Flathead County, Montana. We have reviewed your responses and offer the following comments.

We feel you have adequately addressed our concerns about possible weaknesses in your Draft EIS and have made the appropriate changes in order to finalize your EIS.

If you have not already done so, we recommend you send a copy of your responses to our previous letter to the Seattle District of the Corps of Engineers.

If you have any questions, please contact Ms. Jeanette Conley at (402) 221-3133.

Sincerely,

Richard D. Gorton
Chief, Environmental
Analysis Branch
Planning Division

Date Rec'd	Precedence	Initial	Attach
	MAIL ROUTE		
		30 Precinct Eng	
		30 Assistant	
		30 Office Mgr	
		31 Safety Mgmt.	
		32 Road Design	
		33 Environment	
		34 Hydraulics	
		35 Survey & Mapping	
		36 Traffic Eng.	
		37 Traffic Operations	
		39 Consultant Den.	

**RESPONSE TO MDT FOLLOW-UP LETTER CONTAINING
RESPONSES TO AGENCY COMMENTS ON DRAFT EIS**

Department of the Army Corps of Engineers (Omaha)
Richard D. Gorton, Chief, Environmental Analysis Branch
Planning Division (8/4/93)

1. **RESPONSE:** A copy of the responses to comments contained your 9/2/92 letter and this letter were sent to Mr. William Spurlock of the Seattle District of the Corps of Engineers on September 27, 1993



United States
Department of
Agriculture

Forest
Service
406-755-5401

Flathead National Forest
1935 Third Avenue East
Kalispell, MT 59901

Reply to: 2730/7710

Date: December 15, 1993

David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

Dear Mr. Johnson:

We have the following comments to offer on the Draft Environmental Impact Statement, Section 4(f) Evaluation for U.S. Highway 2 - Columbia Heights to Hungry Horse Project F1-2 (39) 138.

Page S-6 - Transfer of Forest Service Land.

This statement, while true in our opinion, is contradicted several places in the document.

Page M-6 - Part 3 - Wild and Scenic River Impacts.

The first paragraph indicates that MDT holds an easement. Our records do not indicate that an easement has been issued.

Page IV-33 - Cumulative Impacts.

In our opinion the sentence disproportionately emphasizes timber harvest activities. Residential development, subdivision, and recreation, all can play a part in reducing amount and quality of habitat.

RESPONSES TO COMMENTS ON DRAFT EIS

Joel D. Holtrop, Forest Supervisor

USDA Forest Service Flathead National Forest (12/15/92)

1. **RESPONSE:** These apparent contradictions have been corrected in the Final EIS.
2. **RESPONSE:** This sentence was deleted from the text of the Final EIS. Additional text was added to this part describing the discrepancy between USFS and MDT records about whether a highway easement exists on the 0.64 acres of land in the Flathead Recreational River Corridor. The new text reads as follows:

Based on comments on the Draft EIS/Section 4(f) Evaluation from the Forest Supervisor of the Flathead National Forest, some uncertainty exists as to whether or not an easement for US 2 exists on the 0.64 acres of land in the Middle Fork of the Flathead Wild and Scenic River Corridor affected by the proposed action. "As-built" plans for a previous improvement project on this section of US 2 completed in the 1960's show the entire parcel of land to be within the existing highway right-of-way. Subsequent investigations by both the USFS and MDT have not produced an easement or deed for this property. Documentation does exist showing that the roadway has been in this same general location since 1916.

If no easement exists for the highway, MDT must apply for an easement from the USFS. Before such an easement can be granted, the USFS must prepare a Letter of Consent. This transfer of land must be completed prior to beginning construction on the proposed project.

MDT's proposed use of land within the Middle Fork of the Flathead Wild and Scenic River Corridor would be for highway purposes, the same use that presently exists within the Corridor. As correspondence from the Hungry Horse District Ranger and the Acting Regional Forester indicates (see pages VI-37, VI-62, and VI-76 of the Draft EIS), the proposed action is not likely to produce adverse impacts on the values of this segment of the River Corridor.
3. **RESPONSE:** The first sentence in the Cumulative Impacts discussion was revised to read:

The timber harvesting, residential development, rural subdivision, and recreational activities that continue to occur in the NCDE will eventually reduce the amount and quality of habitat necessary for the security of grizzly bears.

The comment that the Weigh Station will be abandoned is of concern unless it will be relocated in the area. There is considerable truck traffic over this route, some of which is generated on the National Forest. The scale at the present location probably is instrumental in keeping loads "legal" on Forest roads as well as on this section of U.S. Highway 2.

4

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		30 Assistant		
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		36 Traffic Eng.		
		37 Traffic Operations		
		39 Consultant Dsn.		
		FWWA		
		Legal		
		J. T. Weaver		
		RPA		
		L. Bragdon		

Page V-3 - Fourth paragraph.

The following statement is not true to the best of our knowledge. "MDT made this determination because lands within the river management zone affected by the proposed action were acquired by MDT for use as right-of-way during previous highway reconstruction in the corridor". We can find no evidence that an easement was ever issued for this segment.

5

Thank you for the opportunity to comment.

Sincerely,

Joel D. Holtrop
JOEL D. HOLTROP
Forest Supervisor

cc: Reesman
Van Natta
HH
R.O. (Bruce Allen)
R.O. (Bill Harper)

4.

RESPONSE: Although the current weigh station in Columbia Heights would be abandoned, the construction of a GVV "B" site within the corridor has been recommended as a part of this project. A GVV "B" site is a widened area adjacent to the highway where portable scales can be set up to monitor the weights of large commercial vehicles. MDT's Project Analysis & Programming Engineer recommended that the site be constructed adjacent to the westbound travel lanes on the north side of the new highway. In this situation, the portable scales could be used to monitor westbound vehicles on US 2. A specific location for this facility would be determined during the final design of the project.

5.

RESPONSE: The issue about whether or not an easement exists for the 0.64 acres of land in Section 6 of Township 30 North, Range 19 West is discussed above in the response to comment 2.

Based on the uncertainty about a highway easement for this parcel of land in the Flathead Wild and Scenic River Corridor, the paragraph on page V-3 of the Draft EIS containing the statement referenced in this comment has been revised to read:

The Middle Fork Recreational River segment and its associated management zone are not considered in this Section 4(f) Evaluation. This determination was made because lands within the river management zone are not managed specifically for recreation or other Section 4(f) activities. This conclusion was based on the management direction for these lands contained in the Flathead National Forest Plan and from correspondence from the Flathead National Forest Hungry Horse District Ranger dated May 4, 1990 and March 12, 1991 included in Part VI of the Final EIS. As indicated in the District Ranger's March 12, 1991 letter, the proposed action is not anticipated to have any significant impacts on the Flathead Wild and Scenic River Corridor.



United States
Department of
Agriculture

Forest
Service
408-766-2401

Flathead National Forest
1936 Third Avenue East
Kalispell, MT 59901

RESPONSE TO MDT FOLLOW-UP LETTER CONTAINING RESPONSES TO AGENCY COMMENTS ON DRAFT EIS

Reply to: 7710/1950

Date: August 13, 1993

RECEIVED

AUG 18 1993

ROBERT PECCIA
& ASSOCIATES

David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
P.O. Box 201001
Helena, MT 59420-1001

Dear Mr. Johnson:

We have reviewed your proposed responses to our comments on the DEIS for Columbia Heights-Hungry Horse EIS, Project NF 1-2(88) 138, Control No. 1290.

We suggest the following change for statement three. As currently written it does not indicate the highway reconstruction effect on Cumulative Impacts.

"Human activities, including the reconstruction of Highway 2, timber harvest, residential and commercial development, rural subdivision, and recreation use have and will continue to have cumulative impacts that reduce capacity for the grizzly bear. The existence of the current highway in the canyon is having effects, but effects will not substantially increase due to the currently proposed improvement."

We suggest adding the following to the second sentence for response number five.

Add the following after "river management zone - 'affected by this proposal'."

Your responses to items 1, 2 and 4 are acceptable to us. Thank you for the opportunity to comment.

Sincerely,


JOEL D. HOLTROP
Forest Supervisor

cc: Van Natta
Hungry Horse
Planning

Joel D. Holtrop, Forest Supervisor

USDA Forest Service Flathead National Forest (8/13/93)

1. RESPONSE: Based on your comment, the text referring to cumulative impacts on Environmentally Sensitive Areas has been modified for the Final EIS to read:

Cumulative Impacts - Human activities, including the reconstruction of US 2, timber harvest, residential and commercial development, rural subdivision, and recreation use have and will continue to have cumulative impacts that reduce the capacity for the grizzly bear. The existence of the current highway in Badrock Canyon is having effects, but effects will not substantially increase due to the proposed improvement of the route.
2. RESPONSE: The sentence referenced by your comment has been revised for the Final Section 4(f) Evaluation to read:

This determination was made because lands within the river management zone affected by the proposed action are not managed specifically for recreation or other Section 4(f) activities.





United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

L7619 (FNP/774)
ER-92/0710

RECEIVED
SEP 30 1992

Mr. Henry D. Honeywell
Division Administrator
Federal Highway Administration
Montana Division Office
301 South Park Street
Drawer 10056
Helena, Montana 59626

Dear Mr. Honeywell:

This responds to your request for the Department of the Interior's comments on the Draft Environmental Impact Statement (DEIS)/Section 4(f) Statement for US-2 (Columbia Heights to Hungry Horse), Flathead County, Montana.

SECTION 4(f) STATEMENT COMMENTS

We concur that there are no feasible and prudent alternatives to the proposed use of a Section 4(f) property, Berne Memorial Park, discussed in the Draft Section 4(f) Evaluation. We also concur with measures to minimize harm.

ENVIRONMENTAL IMPACT STATEMENT COMMENTS

The National Park Service offers the following observations:

The preferred alternative includes a continuous turn lane between Columbia Heights and the entrance to Badrock Canyon. We suggest that the design be modified to provide a turn lane only at the junction of Highway 206, and at the proposed river access site near the entrance to Badrock Canyon.

RESPONSES TO COMMENTS ON DRAFT EIS

U.S. Department of the Interior, Office of the Secretary, Jonathan P. Deason, Director, Office of Environmental Affairs, (9/21/92)

Date Recd.	Preconst.	MAIL ROUTE	Initial
Info			
Act			
		30 Preconst. Engr	
		30 Assistant	
		30 Office Mgr	
		31 Safety Mgmt.	
		32 Road Design	
		33 Environment	
		34 Hydraulics	
		35 Survey & Mapping	
		36 Traffic Eng.	
		37 Traffic Operations	
		39 Consultant Dir.	
		J. T. W. Graves	
		D. Paulsen - FHWA	
		KPA	

1. RESPONSE: DOI's concurrence is noted.

2. RESPONSE: An undivided 64-foot wide four-lane road between Columbia Heights and Berne Road was initially considered before a four-lane road with a continuous median/left turn lane was selected as the preferred alternative. The primary reason for not choosing an undivided four-lane design was that transitions to and from road widenings for left turn lanes at Monte Vista Drive and at the replacement park area near Berne Road would consume nearly 1.3 of the 1.7 miles in this segment of the corridor.

If left turn lanes were provided at Monte Vista Drive and at the proposed replacement park/river access, two short areas of intervening undivided four-lane road (a 0.35 mile-long section between Columbia Heights and Monte Vista Drive and a 0.10 mile-long section between Monte Vista Drive and Berne Road) would exist in this part of the corridor. These brief and frequent transitions to and from areas with left turn lanes are undesirable from a safety standpoint and may be confusing to drivers. The paved surface width and the area disturbed by construction would not vary substantially from that of MDT's preferred design for this section of the corridor.

Considerable undeveloped land remains along the highway corridor between Columbia Heights and the entrance to Badrock Canyon. This undeveloped land significantly contributes to the visual quality of the approach to Glacier National Park, the Great Bear Wilderness, the Flathead Wild and Scenic River, and other nearby wildland areas, as well as to the integrity of important regional wildlife habitat. The proposed continuous turn lane would stimulate additional strip development in this area. Such development is not consistent with Flathead County's Master Plan that calls for the development of viable compact rural commercial centers located in existing communities and discourages strip development along rural highway corridors.

Discussion on page IV-34 attempts to justify the continuous turn lane by noting that, in the absence of zoning, "there are no discernible differences between the build alternatives in the stimulation of secondary development in the project corridor." This argument discounts the recent decision by Flathead County Commissioners to initiate the zoning process for all of Flathead County, as well as recent citizen initiated efforts to begin developing a consensus land use plan for the Canyon area. It is likely that before this portion of US-2 is reconstructed the project area will, in fact, be zoned.

There is also no precedent for providing a median turn lane on US-2 between Columbia Heights and West Glacier. When US-2 was widened to 4 lanes through the nearby communities of Hungry Horse and Coram, no central turn lane was provided.

We suggest that project design be modified to include the construction of a park and ride facility near the junction of Highway 206 and US-2 in Columbia Heights. Such a facility would benefit the large number of National Park Service, Forest Service, and other employees that live in the Flathead Valley and commute into the Canyon area to work. A park and ride facility should result in an overall reduction in traffic volume on this portion of US-2 and should conserve energy by promoting carpooling.

We applaud efforts by the Montana Department of Transportation (MDT) to acquire landholdings in and around Badrock Canyon as a means of controlling incompatible land use. We urge that negotiations for purchase in fee or for the purchase of conservation easements be continued so that much, if not all, of the Badrock Canyon area can be protected from future development. We strongly urge MDT to complete negotiations for the purchase of the private parcel of land fronting US-2 and Berne Road opposite the House of Mystery (p. IV-54).

RESPONSE: Reconstruction of the highway is only one of the factors that may contribute to additional commercial development along US 2 in and out of the project corridor. The lack of land use controls, the presence of Glacier National Park, the promotion of the Flathead region as a year round vacation destination, and the increasing population base in the county are other factors that may contribute to such development. Combined, these factors provide a favorable situation for development by entrepreneurs hoping to capitalize on the influx of visitors and the increasing numbers of county residents. These factors likely outweigh the effect of providing a continuous median/left turn lane as stimuli for commercial development along US 2.

RESPONSE: The text of the Draft EIS was modified for the Final EIS to reflect the recent decision to implement county-wide zoning made by the Flathead County Commissioners.

The comments from the Flathead Economic Development Corporation and the newly formed Canyon Citizen Initiated Zoning Group (CCIZG), suggests genuine concern about increased strip commercial development in Flathead County. The citizen-initiated efforts and the support of various federal, state, and local agencies demonstrate a community desire to control development along the US 2 corridor.

The text of the Draft EIS was also revised for the Final EIS to discuss recent citizen-initiated efforts to control land uses in the project corridor and that MDT has agreed to contribute a portion of the funding necessary to hire a professional land use planner to develop a growth management plan for the US 2 corridor in Flathead County, as requested by the CCIZG.

RESPONSE: The proposed action will include the development of a park-and-ride lot on lands near the intersection of US 2 and FAS 206 with the project. The facility will enhance the project area by helping to reduce energy consumption and vehicle trips within the corridor.

RESPONSE: In addition to the property surrounding the House of Mystery that has already been acquired by MDT, a parcel of land opposite the House of Mystery west of Berne Road was recently purchased by the agency. Negotiations for acquiring additional private lands in Badrock Canyon have been unsuccessful.

The purchase of private lands in Badrock Canyon for other than right-of-way and the acquisition of scenic or conservation easements can only occur if property owners are willing to sell such properties or easements.

We also applaud MDT's efforts to enhance the scenic qualities of the Canyon area by attempting to purchase scenic easements. As noted on page IV-45, MDT purchased some scenic easements as mitigation for the recent reconstruction of US-2 between Hungry Horse and West Glacier, yet was only successful in acquiring 11 of the 39 easements originally proposed. Officials at Glacier National Park have observed an increase in citizen concern for the future of the Canyon area since this earlier reconstruction effort was completed and thus are hopeful that MDT will be more successful in its attempt to purchase scenic easements as mitigation for the Columbia Heights to Hungry Horse Project.

Evidence of local support for maintaining scenic and other qualities of the Canyon are found in the results of the Future of the Canyon Survey (1992) that was compiled by the Flathead Economic Development Corporation. A copy of these results can be obtained by writing to the Flathead Economic Development Corporation at 777 Grandview Drive, Kalispell, Montana 59901.

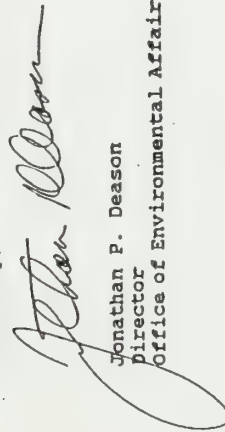
We also urge MDT to consider off-site mitigation by purchasing lands in fee or by purchasing conservation or scenic easements elsewhere along the US-2 corridor through the Canyon area. We encourage MDT officials to contact the Canyon Citizens Initiated Zoning Group (Nancy Omholt, telephone (406) 387-5331 or (406) 752-2338) and the Flathead Economic Development Corporation (Carol Daly, telephone (406) 756-8548) regarding how MDT might help their efforts to develop a consensus land use plan for the Canyon area.

The National Park Service has no plan to relocate 200 Park Service housing units to an area between Hungry Horse and West Glacier (p. III-18).

SUMMARY COMMENTS

The Department of the Interior has no objection to Section 4(f) approval of this project.

Sincerely,



Jonathan P. Deason
Director
Office of Environmental Affairs

CC:
Mr. David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
2701 Prospect Avenue
Helena, Montana 59620

7.

RESPONSE: The results of the *Future of the Canyon Survey* compiled by the Flathead Economic Development Corporation have been obtained and reviewed by the preparers of the EIS.

8.

RESPONSE: MDT officials are working with representatives of the CCIZG, Flathead County, and other agencies interested in developing a growth management plan and land use controls for the US 2 corridor between Columbia Heights and Marias Pass. MDT has agreed to contribute a portion of the funding necessary to retain professional services to complete this land use planning effort.

9.

RESPONSE: The sentence indicating plans for relocating 200 NPS housing units was deleted from the text of the EIS.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

RESPONSE TO COMMENTS ON DRAFT EIS
U.S. Environmental Protection Agency, Montana Office
Eric W. Finke for John F. Wardell, (9/10/92)

Ref: 8MO

September 10, 1992

Dale Paulson
Project Development Engineer
Federal Highway Administration
301 South Park Street
Drawer 10056
Helena, Montana 59626

Re: U.S. Highway 2-Columbia Heights to Hungry Horse
Project F1-2 (39) 138
Flathead County, Montana
Draft Environmental Impact Statement

Dear Mr. Paulson:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Environmental Protection Agency's Region VIII Montana Office (EPA) has reviewed the above-referenced Draft Environmental Impact Statement (DEIS).

The Federal Highway Administration (FHA) proposes to reconstruct 4.4 miles of U.S. Highway 2 between Columbia Heights and Hungry Horse. The construction of a new bridge over the South Fork of the Flathead River is also discussed.

Four (4) alternatives and a no-action alternative were developed to address this project proposal. The FHA has selected Alternative 1 as the preferred alternative. This would consist of a new four lane highway with median and left turn lane with widths varying from 64 feet to 82 feet, and replacement of the existing bridge over the South Fork of the Flathead River.

The EPA does have concern over the placement of fill in, and encroachment upon, the Flathead River. The amount of fill, approximately 8,300 cubic yards (1,450 feet in length), is major and would require an individual 404 permit. This new highway alignment will have negative impacts on water quality, fish resources, wildlife (especially the bald eagle), wetlands, riparian vegetation, and other human resources (Part IV, page 9). The EPA believes that evaluation of alternatives should document those alternatives that avoid or minimize encroachment upon the river as not practicable. The EPA would bring to the attention of the FHA the 404(b)(1) Guidelines for discussion and guidance

1. **RESPONSE:** The Corps of Engineers, a cooperating agency for the EIS, has indicated that the proposed encroachment on the Flathead River would require an individual Section 404 permit.

2. **RESPONSE:** The text of the Final EIS has been revised to reflect considerations outlined in the Section 404 (b)(1) Guidelines. MDT has also documented the project's impacts relative to 404(b)(1) considerations in a separate appendix, APPENDIX 14, in the Final EIS. Both the Draft Section 404 (b)(1) Evaluation and Part II of the Final EIS contain discussions about the identification and selection of practicable alternatives for this proposed action.

3.

RESPONSE: Two-lane alternatives will not adequately accommodate current or projected traffic volumes within the corridor. As the Draft EIS indicates, two-lane alternatives do not meet the specified purposes and needs of the proposed action, therefore, they are not reasonable alternatives for the project.

As text on page VI-7 of the Draft EIS indicates, much of the public support for the two-lane alternatives was generated through mail-in commenting campaigns organized by the Coalition for Canyon Preservation. The CCP-generated forms allowed respondents to select only two-lane alternatives and did not list other alternatives as options for the proposed reconstruction of US 2. Additionally, many respondents sent similar comments to MDT in more than one form (CCP form, postcards, and letters).

3

4.

RESPONSE: In January of 1993, MDT finalized its *Highway Construction Standard Erosion Control Work Plan* which contains guidance for developing erosion control plans for highway construction projects. The procedures outlined in the *Workplan* were used to determine where and what type of erosion control measures are most appropriate during the construction of the project.

The *Erosion Control Workplan* is based on seven major principles of soil erosion and sedimentation control including:

- planning the development to fit the project setting;
- minimizing the extent of disturbed area and duration of exposure;
- stabilizing and protecting disturbed areas as soon as possible;
- keeping runoff velocities low;
- protecting disturbed areas from runoff;
- retaining sediment with the corridor or site area; and
- implementing a thorough maintenance and follow-up program.

The *Work Plan* incorporates these principles and recognizes that the prevention of erosion from the site is the best way of controlling sediments and its potential adverse effects on the Flathead River system.

The *Work Plan* provides highway designers with a process to identify Best Management Practices (BMPs) for erosion control. The selection of BMPs is based on the distance to surface water or wetlands, precipitation intensity, soil properties, slopes, and the presence of critical resources (like threatened or endangered species habitat, prime fisheries, cultural sites, and hazardous materials/wastes). BMPs fall into three categories including slope protection measures, sediment retention, and waterway protection. APPENDIX 13 in the Final EIS identifies BMPs and locations where such measures may be appropriate for this project given conditions in the area.

A Storm Water Erosion Control Plan must be developed and submitted for approval from the State Water Quality Bureau prior to the construction of the proposed project. The primary objective of developing a Storm Water Erosion Control Plan incorporating appropriate BMPs for the proposed highway construction project is to minimize the erosion of disturbed areas during the construction and post construction phase of the project.

4

regarding evaluation of "practicable" alternatives. Encroachment upon the river should not occur unless the need for such action is well documented and justified through alternatives analysis in conformance with the 404(b)(1) Guidelines.

The EPA would suggest the same type of alternative as proposed by several local groups, a two lane highway with turnouts for slow moving vehicles and such design to allow for little or no impacts to the river or adjacent areas. The public comments supported this two lane alternative by approximately 60 percent (Part VI, Table 18, page 8).

The EPA asks for the water quality analysis that discloses the potential sediment increases to the Flathead River from highway construction, runoff, fill sites, and future flooding. What direct or cumulative impacts could be expected to Flathead Take from these future activities?

5 Will an individual storm water permit and erosion control plan be discussed and included in the Final Environmental Impact Statement (FEIS)? How will construction blasting impact water quality standards? All appropriate pollution and erosion control measures should be listed in the FEIS and implemented during construction to assure protection of water quality and aquatic habitat.

With the proper design, implementation, and monitoring of the Storm Water Erosion Control Plan, sedimentation impacts to the Flathead River and Flathead Lake are not likely to occur as a result of this proposed action.

5.

RESPONSE: One of the primary reasons that the *Highway Construction Standard Erosion Control Workplan* was developed was to ensure compliance with the Montana Pollutant Discharge Elimination System and to successfully apply for General Discharge Permits for storm water associated with construction activities.

The Final EIS will not include an Erosion Control Plan or a storm water permit for the proposed action since the development of final design plans for this project can not be authorized until necessary design and location approvals have been obtained. The text of the Final EIS has been modified to identify the need for a storm water permit. The text of the Final EIS also contains a new Appendix which identifies Best Management Practices for erosion control in the project area and locations where such measures should be employed during construction.

An Erosion Control Plan will be developed and submitted to the State Water Quality Bureau along with an application form for a General Discharge Permit for Storm Water Associated With Construction Activities during the final design phase of the project.

6.

RESPONSE: Rock blasting is anticipated only at the western end of Berne Memorial Park where a large rock outcrop exists. Blasting would occur to the south of the existing highway and would not occur along or within the river. Text has been added to the Final EIS to better identify the potential impacts of blasting on the project area.

The Contractor performing the blasting must submit a blasting plan to the Project Engineer for review well in advance of the proposed blasting activities. Blasting shields or mats would be used to contain loosened rock from the cliff. This local rock material would be used as fill in other portions of the project area or crushed and used as aggregate for asphalt surfacing.

Discussion was added to the text of the Final EIS describing the general effects of construction blasting on water quality standards. The primary water quality concern related to blasting is the potential for the liberation of nitrogen from blasting compounds. If substantial amounts of nitrogen enters surface or groundwater, the quality of local waters and even those in Flathead Lake could be degraded. These concerns and measures to offset or minimize adverse effects are addressed in the Draft Section 404(b)(1) Evaluation and in text describing the water quality impacts of the proposed action contained in Part IV of the Final EIS.

The MDHES Water Quality Bureau was contacted during the preparation of the Final EIS in an effort to help identify the impacts of blasting on water quality.

The EPA would recommend a more innovative means of riverbank protection than standard rock riprap. The placement of logs, root wads, and vegetative plantings should be intermixed with rock placement along the South Fork of the Flathead River to stabilize riverbanks where encroachment occurs. The logs, root wads, and vegetative plantings provide a more natural appearance to the bank stabilization, and also provide additional habitat value (shading and cover). The enclosed diagrams provide an example of this type of stabilization.

The display and discussion of wetlands impacts is confusing. Appendix 6 describes ten types of wetland communities in the project area and identifies 16.4 acres of wetlands within the existing highway right-of-way including; 0.1 acre of rooted emergent wetlands (type 1); 0.9 acre riparian shrub wetlands (type 6); 5.4 acres of riparian cottonwood and conifer forest wetlands (type 7); 4.0 acres of seeps and springs (type 8); and 6.0 acres of disturbed area wetlands (type 9 and 10). Part III, page 11, indicates that the proposed action will affect 16.2 acres of type 1 (rooted, emergent species), type 2 (riparian grasses) and type 7 (riparian cottonwood and conifer forest) wetlands. Part IV, pages 17 and 18, suggests other wetlands impacts. Please comment on these apparent discrepancies.

The EPA also had a difficult time understanding Part IV, Table 13 (Impact on Vegetation), page 16. Please define the acronyms like PTW and others.

The EPA is also very concerned over the continued loss of productive farmland and those vegetated lands which contribute to a stable worldwide environment.

7. **RESPONSE:** The incorporation of alternative riverbank protection measures into the design of the proposed action was discussed at meetings with the EPA held during December, 1992 and April, 1993. As the result of the most recent meeting with Steve Potts, Environmental Coordinator for the EPA's Montana Office, it was understood that reducing the proposed encroachment on the Flathead River was preferable to incorporating the riverbank stabilization measures recommended by EPA into the design of the fill area proposed in the Draft EIS.

Based on concerns about the extent of the Badrock Canyon encroachment expressed by the EPA and in some comments from the public, measures that may reduce the amount of fill material placed in the river were investigated. Such measures included the use of steepened riprap fill slopes, the installation of retaining walls, the placement of gabions along the riverbank, and the use of cantilevered structures or piers to support the roadway. A tunnel through Badrock Canyon was also investigated in more detail for the Final EIS.

A summary of the costs, feasibility, and impacts of incorporating these design measures has been included in Part II: Alternatives of the Final EIS and in a discussion of practicable alternatives in the Section 404(b)(1) evaluation. As a result of these investigations the preferred alternative for US 2 in Badrock Canyon has been modified to include a vertical retaining wall. This measure would reduce the amount of fill placed below the ordinary high water mark to 1,350 cubic yards as compared to the 8,300 cubic yards required by the design proposed in the Draft EIS.

8. **RESPONSE:** Wetlands within the project corridor were reassessed according to WET II procedures. The Final EIS contains new wetland descriptions and maps that clearly delineate jurisdictional and nonjurisdictional wetlands within the corridor. The Only Practicable Alternative Wetlands Finding is presented in APPENDIX 15 of the Final EIS.

9. **RESPONSE:** Vegetation and wetlands impacts have been revised to reflect the acreage of each wetland or community type present within the right-of-way needed for the build alternatives. The acreage of each vegetation community or wetland disturbed by construction has also been included in the Final EIS.

10. **RESPONSE:** Table 13 in the Draft EIS was revised for the Final EIS to focus only on the vegetation or wetland impacts within proposed right-of-way for each build alternative. The acronyms referenced in the comment have been deleted from the table.

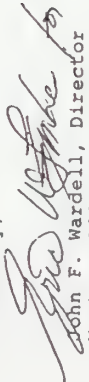
11. **RESPONSE:** Conversion of important farmland to highway right-of-way is unavoidable in the project corridor. The effects of this conversion were evaluated according to the requirements of the Farmland Policy Protection Act. Evaluations determined that the land affected by the project is farmland of low potential and that consideration of alternatives to avoid impacting these lands was not necessary.

Please refer to the discussions about the impact of the proposed farmland conversion contained in Parts IV of the Final EIS.

The EPA was pleased to see that mitigation of wetlands impacts will comply with the procedures outlined in the Montana Interagency Wetlands Group Memorandum of Understanding. We also agree with the recommendations of Part IV, page 27, on bald eagle enhancement opportunities and purchase of riparian habitats within the project area.

In accordance with the criteria that EPA has established for rating Draft Environmental Impact Statements, we have rated this DEIS as category EO-2 (Environmental Objections - Insufficient Information). A copy of EPA's rating criteria is attached. If you wish to discuss these EPA comments, please feel free to contact Jeff Bryan of my staff at 406-449-5486.

Sincerely,


John F. Wardell, Director
Montana Office

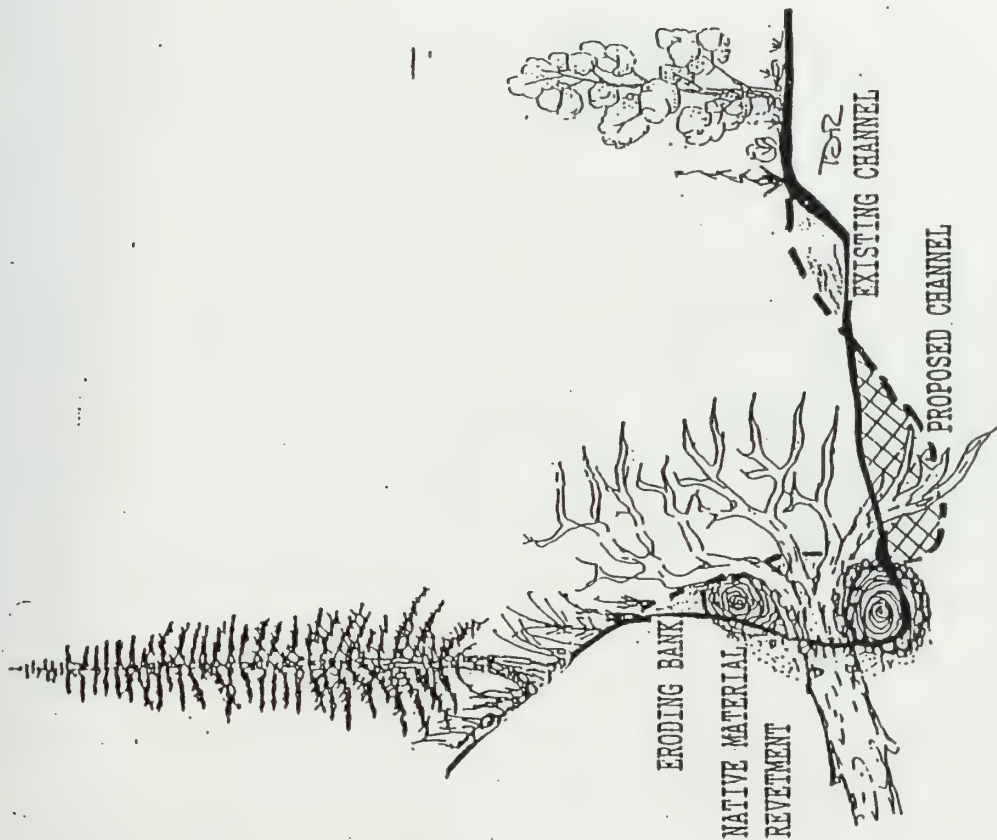
Attachments

cc: Phyllis Williams, 8WM-EA
Pearl Young, OFA-A104
David S. Johnson, MDOT

12.

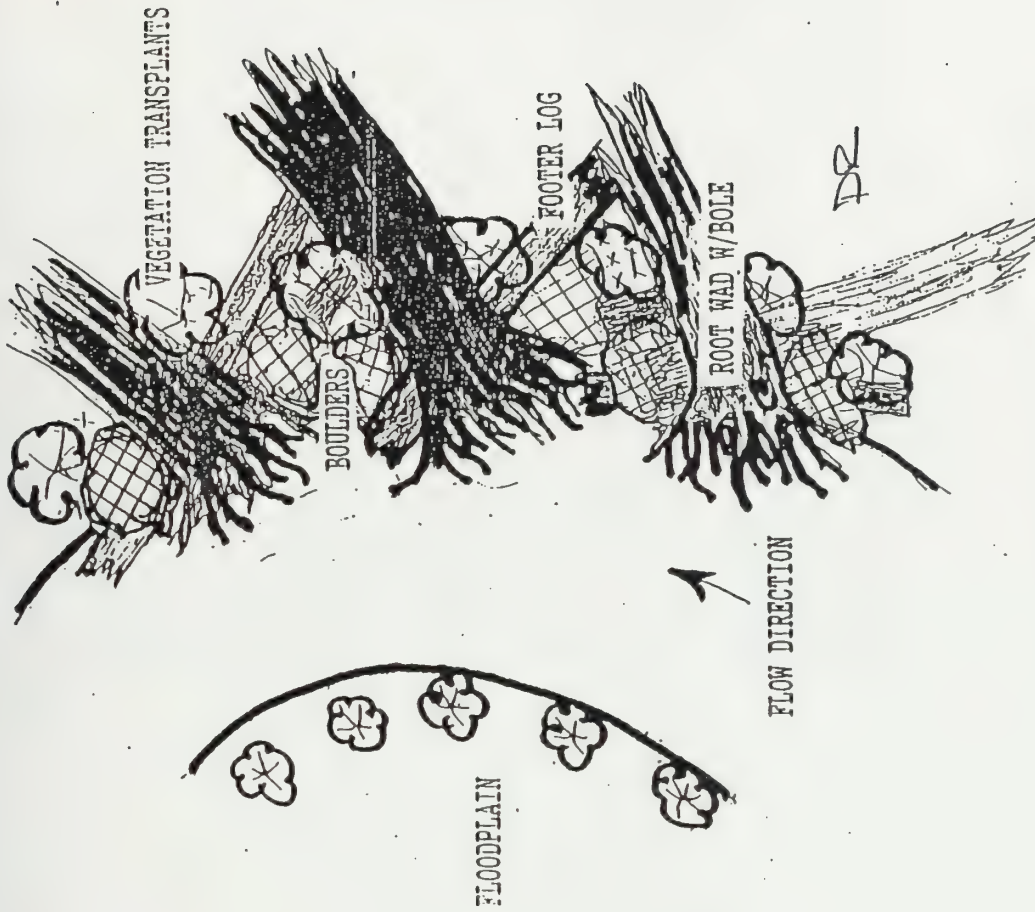
RESPONSE: Efforts to provide additional information about this proposed project and its impacts were made during meetings held on December 3, 1992 and on April 5, 1993. The issues raised in this letter were discussed with representatives of the EPA's Montana Office.

12



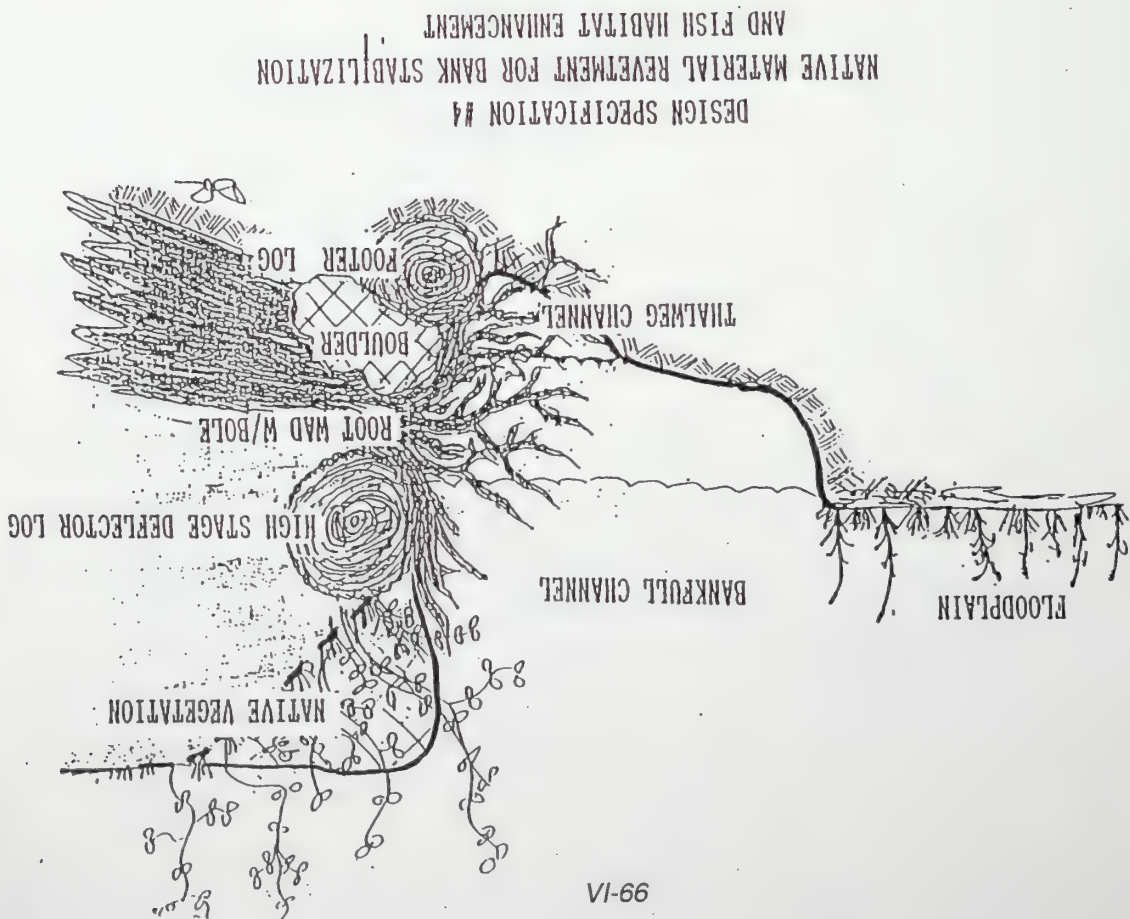
DESIGN SPECIFICATION #2
SLOPE STABILIZATION/BANK EROSION CONTROL/FISH HABITAT

E20



DESIGN SPECIFICATION #3
PLANVIEW OF NATIVE MATERIAL REVEITEMENT

E21



DESIGN SPECIFICATION #4
NATIVE MATERIAL REVEITEMENT FOR BANK STABILIZATION
AND FISH HABITAT ENHANCEMENT

SUMMARY OF RATING DEFINITIONS

ENVIRONMENTAL IMPACT OF THE ACTION

LO--LACK OF OBJECTIONS

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have identified opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--ENVIRONMENTAL CONCERNS

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--ENVIRONMENTAL OBJECTIONS

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures require substantial changes to the preferred alternative or consideration of some other project. EPA intends to work with the lead agency to reduce these impacts.

EJ--ENVIRONMENTALLY UNSATISFACTORY

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

CATEGORY 1--ADEQUATE

EPA believes the draft EIS adequately sets forth the environmental impacts of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

CATEGORY 2--INSUFFICIENT INFORMATION

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS. The reviewer has identified environmental impacts that are not discussed in the draft EIS. The reviewer has identified additional information, data, analyses, or discussion should be included in the final EIS.

CATEGORY 3--INADEQUATE

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the draft EIS contains insufficient information, data, analyses, or discussion of such magnitude that the reviewer cannot make a decision on the adequacy of the EIS. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

from: EPA Manual 1640, "Policy and Procedures for the Review of Federal Impacting the Environment."



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10036
HELENA, MONTANA 59626-0036

MASTER FILE
COPY

RESPONSE TO MDT FOLLOW-UP LETTER CONTAINING
RESPONSES TO AGENCY COMMENTS ON DRAFT EIS

U.S. Environmental Protection Agency, Montana Office
William E. Engle for John F. Wardell, (8/17/93)

Ref: 8MO

August 17, 1993

Mr. David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
2701 Prospect Avenue
P.O. Box 201001
Helena, Montana 59620-1001

Re: Columbia Heights - Hungry Horse EIS

Dear Mr. Johnson:

This is in response to your request to EPA for a followup letter regarding the Montana Department of Transportation's (MDT) response to EPA's comments on the Draft Environmental Impact Statement (DEIS) for the above referenced project.

The EPA will carry out a detailed review of the MDT responses to our DEIS comments upon our review of the Final EIS for this project. We note that determination of the adequacy of the MDT responses to our DEIS comments depends upon our review of information in the FEIS, such as the 404(b)(1) analysis, which is to be included as an appendix to the FEIS.

We do agree that encroachment upon the river should not occur unless such action is justified and adequately mitigated through application of the 404(b)(1) Guidelines. We look forward to receipt of the FEIS. If you have any questions please call Mr. Steve Potts of my staff at 449-5486.

Sincerely,

William E. Engle
for John F. Wardell, Director
Montana Office

No responses are required. EPA will be provided a copy of the Final EIS/Section 4(f) Evaluation for review.

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

AIR QUALITY BUREAU

STEVE STEPHENS, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

(406) 444-3454
FAX # (406) 444-1374

HELENA, MONTANA 59620

September 15, 1992

David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

Dear Mr. Johnson:

This is in response to your letter of July 22, 1992 requesting the Montana Department of Health and Environmental Sciences (DHES) comment on the Draft Environmental Impact Statement (EIS) for the U.S. Highway 2 - Columbia Heights to Hungry Horse Project F1-2(39)138 in Flathead County, Montana. After reviewing the EIS extensively, DHES would like your department to consider the following comments and suggestions.

As stated on page IV-11 of the EIS, "...simplified CO analyses and previous general analyses for similar projects... have shown that air quality standards will not be exceeded." DHES partly agrees with this statement in that the project will not produce adverse impacts upon the carbon monoxide air quality standards. However, the EIS has not taken into account the significant impact the construction could have upon the exceedance of the particulate (PM-10) air quality standards.

The proposed highway project is only a few hundred yards from a federally designated nonattainment area for PM-10. Columbia Falls was designated as nonattainment on November 15, 1990 due to violations of the PM-10 ambient air quality standard. As a result of this designation, DHES and the Flathead City-County Health Department developed a PM-10 emission control plan for Columbia Falls as a modification of the Montana State Implementation Plan (SIP).

A map of the Columbia Falls nonattainment area is attached. These boundaries are based on ambient monitoring data, population and terrain. The nonattainment area encompasses all of the populated area around Columbia Falls and assures that essentially all of the emissions contributing to violations of the PM-10 standard are covered by the control strategies.

Highway projects, especially during the construction phase, have historically contributed significant emissions of PM-10 from re-entrained road dust due to normal traffic and heavy equipment travel on unpaved surfaces and tire carry-on of material onto paved sections. In addition, slash burning from right-of-way clearing can also add to PM-10 levels.

In order to reduce the emissions of PM-10 from this project, DHES strongly suggests the following actions:

1. **RESPONSE:** The text of the Final EIS was modified to reflect the recent change in PM-10 attainment/nonattainment status for the Columbia Falls area. The text of the final document was also modified to indicate that the Flathead City-County Health Department developed a PM-10 emission control plan for Columbia Falls as a modification of the State Implementation Plan.
2. **RESPONSE:** MDT acknowledges that vehicles operating on the highway and construction activities generate particulate matter.

1) Daily street sweeping on both ends of the project during the construction phase. This will reduce the impact of carry-on dirt from the project onto the paved streets within the nonattainment boundaries.

2) If any detours are unpaved, they should be watered and/or chemically stabilized so that the emissions are less than 20% opacity.

3) Any slash being burned due to right-of-way clearing should be hand-piled or stacked with a brush blade and cured. Open burning restrictions must be followed, and a major open burning permit and fee may be required from the county.

4) Asphalt plants and gravel crushers in the immediate vicinity are also significant contributors to the PM-10 emissions from highway construction. An air quality permit must be obtained from our office to operate crushers and asphalt plants in Montana. Obtaining a permit for a location in or near the nonattainment area may require emission offsets and therefore may be difficult to obtain.

5) Although an air quality analysis was performed for carbon monoxide, one should also be performed for PM-10. The analysis should address both the construction and post construction scenarios.

During the construction phase it should address fugitive dust emissions from construction activity and any associated crushers or asphalt plants as well as re-entrained road dust from vehicle traffic on unpaved surfaces and paved surfaces subject to heavy carry-on. The analysis should also consider mitigating measures such as water or chemical stabilization and daily sweeping.

The post-construction scenario should primarily consider any potential increases in VMT within the nonattainment area due to the project. Generally VMT increases will result in increased emissions of PM-10.

DHES supports your efforts to upgrade the Montana highway system. However, due to the close proximity of this project to a PM-10 nonattainment area, we strongly suggest further analysis and that the above measures be taken to reduce the emissions of PM-10.

If you would like to discuss this further, please contact me or Bob Raisch at (406) 444-3454.

Sincerely,

Robert Raisch, for

Gretchen Bennett
PM-10 SIP Coordinator

GB:d1
Attachment

3.

RESPONSE: Recommendations outlined in the letter from the Air Quality Bureau will be incorporated into the construction specifications for the project should the proposed action be advanced to the construction phase.

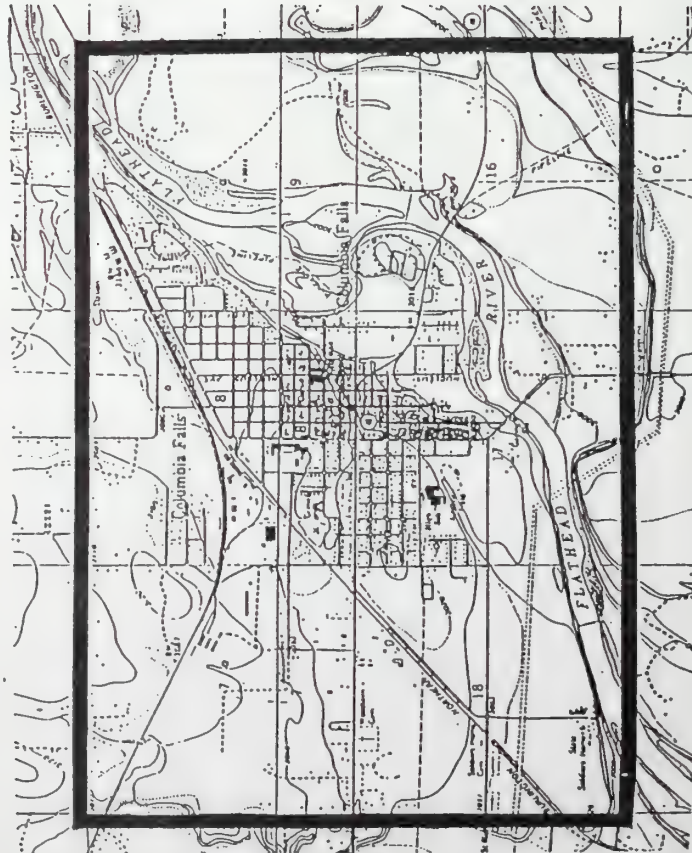
If slash burning associated with right-of-way clearing activities is necessary within a closed burning season, a burning permit will be obtained from the Montana Department of State Lands.

4.

RESPONSE: The Final EIS includes the results of a PM-10 analysis for the project corridor. The MDHES Air Quality Bureau was consulted to determine the appropriate analysis methodology and for emissions factors to predict concentrations of PM-10 and/or total suspended particulates levels generated during the construction and post-construction phases of the project.

The Air Quality Bureau was also given an opportunity to review and comment on a draft PM-10 analysis prior to the completion of the Final EIS. Comments from the agency have been incorporated into the final PM-10 analysis and the text of the EIS.

COLUMBIA FALLS NONATTAINMENT AREA



5

5.

RESPONSE: The Air Quality Bureau provided this map showing the location of the Columbia Falls nonattainment area as an attachment to their comments.

Although the proposed action does not lie within the nonattainment area, the project's beginning (the intersection of US 2 and FAS 206) is less than one-quarter mile from the east boundary line of the nonattainment area. The location of the project relative to the Columbia Falls PM-10 nonattainment area is important because particulate emissions from construction activities and traffic on this section of US 2 could contribute to exceedances of PM-10 standards within the nonattainment area.

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
AIR QUALITY BUREAU

MASTER FILE
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COGSWELL BUILDING
1400 BROADWAY

PO BOX 200601
HELENA, MONTANA 59620-0601

July 29, 1993

(406) 444-3454
FAX (406) 444-1374

STATE OF MONTANA



David S. Johnson, P.E.
MT Department of Transportation
2701 Prospect Avenue
Helena, MT 59620-1001

Dear Mr. Johnson:

This is in response to your letter of July 21, 1993 which requests a response on whether the Air Quality Bureau's concerns were adequately addressed on the Columbia Heights - Hungry Horse EIS Project NH 1-2(68)138, Control No. 1290.

The bureau has reviewed the letter and has one comment to make. Response #3 states that a "burning permit will be obtained from the Montana Department of State Lands." The State Lands fire control permit is NOT what the bureau is referring to when discussing the Air Quality Open Burning requirements. I have attached a copy of the State of Montana Air Quality Rules which refers to the open burning requirements. Flathead County administers a similar regulation and the bureau would like to state once again that a major open burning permit and fee may be required from the county. Other than this concern, the bureau is satisfied that its remaining air quality concerns have been addressed.

Additionally, the bureau has worked closely with Dan Norderud of Robert Peccia & Associates on a PM-10 analysis of the project and is satisfied with the results of the analysis. Thank you for the opportunity to comment on the project and for addressing our air quality concerns.

Sincerely,

Gretchen Bennett
Gretchen Bennett
Air Quality Specialist

GB:dl

Enclosure

AN EQUAL OPPORTUNITY EMPLOYER

RESPONSE TO MDT FOLLOW-UP LETTER CONTAINING
RESPONSES TO AGENCY COMMENTS ON DRAFT EIS

Montana Department of Health and Environmental Sciences, Air Quality
Bureau, Gretchen Bennett, Air Quality Specialist (7/29/93)

1. RESPONSE: On the basis of your comment the text of Part VI, H. Permit Requirements, in the Final EIS has been modified to read:

Permits for Open Burning - If open burning would occur with the right-of-way clearing activities for the proposed highway improvement project, several permits may be required before such an action can be undertaken. A fire control permit may be required from the Department of State Lands for burning during restricted seasons. Additionally, open burning permits may have to be obtained from both the MDHES Air Quality Bureau and from Flathead County.

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
WATER QUALITY BUREAU



STATE OF MONTANA

FAX (406) 444-1374
Phone # (406) 444-2406

Room A-206
COGSWELL BUILDING
1400 BROADWAY

PO BOX 200901
HELENA, MONTANA 59620-0901

MASTER FILE
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RESPONSE TO COMMENTS ON DRAFT EIS

Montana Department of Health and Environmental Sciences,
Water Quality Bureau, Environmental Sciences Division,
Abe Horpestad, Supervisor, Technical Studies and Support, (7/8/93)

July 8, 1993

David S. Johnson, P.E.
Preconstruction Engineer
Preconstruction Bureau
Montana Department of Transportation
2701 Prospect Ave.
Helena, Mt 59220-1001

Dear Mr. Johnson;

I have reviewed the Draft Environmental Impact Statement for U.S. Highway 2-Columbia heights to Hungry Horse Project F1-2 (39) 138 and have discussed it with Daniel Nordenud. It appears that this project could cause violations of the nondegradation laws of Montana.

These violations could possibly occur due to the liberation of nitrogen from blasting compound residue. If significant amounts of this nitrogen enters surface or ground water it would violate the nondegradation law.

It may be possible to avoid these violations of the law and thus remove the need for becoming involved in the nondegradation review or exception process. If this cannot be done there will be considerable expense involved and perhaps more importantly the process is quite lengthy. It is with this possibility in mind that I suggest that the water quality degradation from this source be analyzed in the final EIS.

If there will be significant impacts from nitrogen if the waste rock is placed in the river it may be desirable to modify the project to prevent these impacts. It may be possible to avoid the potential impacts from the blasting residue in several different ways. The most obvious of these is to place the waste rock in a "no impact" storage/disposal site. This ideal site would be above the ground water table and would have a cover such that percolation would not pass through the waste rock. Such a site may be difficult to locate and the cover may be expensive. A second alternative would be to place the waste rock and it's

1. **RESPONSE:** A study was performed to evaluate the potential for nitrogen residues (nitrates) from blasting to degrade local water quality. Three "worst case" situations for the introduction of nitrates to local surface or ground water were evaluated including placing excavated rock directly into the river, precipitation washing nitrates off the excavated rock face, and precipitation leaching through a pile of excavated rock stored in the project corridor. Analyses indicated that nitrates introduced to the river in these ways would produce only minor and short term adverse effects on this water quality parameter. In most cases, the predicted changes in water quality were barely measurable.

2. **RESPONSE:** Since the release of the Draft EIS, the design of the preferred alternative through Badrock Canyon has been modified to include a vertical retaining wall between the new highway and the river. As proposed, the retaining wall would most likely be a reinforced earth type wall with precast facing panels. This design modification will eliminate the need to place excavated rock in the river.

Excavated rock would be used as road bed material or crushed and incorporated into asphalt surfacing if testing determines the material is suitable for such use.

David S. Johnson
July 8, 1993
Page 2

residue under the road, again in a location where ground water would not pass through it and to utilize the road and a lined shoulder as the cover. Finally it may be possible to crush the waste rock and use it in the asphalt.

We will be glad to work with you to prevent impacts to water quality while minimizing the expense and time involved in this or other highway projects.

Sincerely yours,



Abe Horpestad, PhD.
Supervisor, Technical Studies and Support
Water Quality Bureau
Environmental Sciences Division

cc: Edrie Vinson
AH:ad/Vinson2

3.

RESPONSE: The MDHES Water Quality Bureau was provided with an opportunity to review and offer comments on the study of the effects of nitrates from blasting compounds on water quality. MDT representatives also met with Mr. Horpestad on October 1, 1993 to discuss the study's conclusions.

During the October 1 meeting, Mr. Horpestad indicated that the proposed highway reconstruction could also elevate phosphorus levels in the Flathead River. As with nitrates, the primary concern is the potential for this nutrient to contribute to the productivity of waters in Flathead Lake. As a result of the meeting, the text of the Final EIS has been supplemented to consider the effects of the reconstruction on phosphorus levels in the Flathead River system.

The most likely way that highway reconstruction could contribute to phosphorus levels in the Flathead River system is by the erosion and transport of sediments from the project site during precipitation events. Phosphorus attached to sediments could be transported to the river by surface runoff over areas disturbed during construction or by runoff from the facility after the road is in use.

The Draft EIS proposed that excavated rock be placed directly into the river to allow the location of the highway to be shifted. This situation presented the opportunity for sediments containing phosphorus to be introduced to the river along with excavated rock. The use of a retaining wall in Badrock Canyon as now proposed will reduce the chance that fill material with sediments containing phosphorus are introduced directly into the river.

MDT's newly developed *Highway Construction Erosion Control Workplan* contains procedures that highway designers must follow to determine best management practices (BMPs) for erosion and sediment control within the project area during and after construction. With the proper design, implementation, and followup actions, the BMPs will minimize erosion and the transport of sediments containing phosphorus to surface waters.

DEPARTMENT OF
HEALTH AND ENVIRONMENTAL SCIENCES
WATER QUALITY BUREAU

Room A-206
COGSWELL BUILDING
1400 BROADWAY



STATE OF MONTANA

FAX (406) 444-1374
Phone # (406) 444-2406

PO BOX 200901
HELENA, MONTANA 59620-0901

March 23, 1994

MAR 28 1994

Mr. Daniel M. Norden
Robert Peccia & Associates
P.O. Box 5653
Helena, Montana 59604

ROBERT PECCIA
& ASSOCIATES

Dear Mr Norden:

We have reviewed the material submitted regarding the potential water quality impacts of the Columbia Falls-Hungry Horse Highway Reconstruction Project F 1-2 (39) 138.

Based on this review and the requirements of 75-5-301 (c), we have concluded that this project as proposed will result in nonsignificant changes in water quality.

If you have any questions please contact Abe Horpestad at the address given in the heading of his letter.

Sincerely yours,

Abe Horpestad

Abe Horpestad, PhD
Supervisor, Technical Studies and Support
Water Quality Bureau
Environmental Sciences Division

AH:

MASTER FILE
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Flathead Regional Development Office

723 5th Avenue East - Room 414
Kalispell, Montana 59901
November 13, 1992
Phone: (406) 752-5300 Ext. 279

RECEIVED

NOV 18 1992

ROBERT PECCIA
& ASSOCIATES

David S. Johnson, P.E.
Preconstruction Engineer
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

Re: Comments on DEIS for Project F1-2(39) 138, "Reconstruction of
U.S. Highway 2 between Columbia Heights and Hungry Horse"

Dear Mr. Johnson:

Enclosed are comments regarding the draft Environmental Impact Statement of the above referenced project. Many of the comments are editorial in nature, some are based on factual inconsistencies within the text of the document. Following the item-by-item comments is a review of the project and its expected impacts from a land-use planning perspective. Thank you for the opportunity to comment on the project.

The first paragraph of the Floodplain Impacts section on page IV-7 gives a misleading definition of the base flood (popularly called the "100-year" flood). This flood is defined as "a flood event of specific magnitude with the probability of recurring once every 100 years." The NFIP definition of the base flood is that flood which has a one percent (1%) chance of being equaled or exceeded in any given year. The definition used gives credence to the notion that the base flood only happens every one hundred years when, in fact, there have been at least five "100-year" floods on the Flathead River in the last 96 years. For this reason, either the NFIP definition should be used or more information of the flood history of the Flathead should be given.

Reference is made to NFIP regulations that allow construction to increase the flood elevation by up to one foot. Montana and Flathead County regulations allow only a six-inch increase in the base flood elevation.

Date	Recd.	Preconst.	MAIL ROUTE
11-17-92			
			30 Preconst Eng
			30 Assistant
			30 Office Mgr
			31 Safety Mgmt
			32 Road Design
			33 Environment
			34 Hydraulics
			35 Survey & Map
			36 Traffic Eng.
			37 Traffic General
			39 Consultant
			ST. W. W. W.
			FWHA
			File
			RPA
			Brady

Providing Community Planning Assistance
• Flathead County • City of Columbia Falls • City of Kalispell

RESPONSE TO COMMENTS ON DRAFT EIS

Flathead Regional Development Office
Stephen F. Herbaly, Planning Director (11/13/92)

1.

RESPONSE: The text of the Final EIS was modified to define the base flood as a flood event which has a 1% chance of being equaled or exceeded in any given year. This definition is consistent with the NFIP definition of a base flood. Text was also added indicating that flood events of this magnitude have occurred at least five times on the Flathead River in the past 100 years.

2.

RESPONSE: Hydraulic calculations for three locations on the mainstem of the Flathead River where complete river cross-sections were surveyed show that construction of any of the build alternatives would reduce flood elevations slightly (0.03 to 0.06 feet) or would not change the elevation of the base flood. This conclusion was based on preliminary highway designs through Badrock Canyon which employed 2:1 fill slopes. MDT's preferred design would employ a vertical retaining wall in the area of encroachment. This measure would be expected to produce similar effects on base flood elevations.

The text of the Final EIS was also modified to indicate that Montana and Flathead County floodplain regulations permit only a six-inch increase in the elevation of the base floodplain.

David Johnson
Re: DEIS Project
November 13, 1992
Page 2

On page IV-9 is a statement that the flood elevations would not be "substantially increased", but no indication of the amount of increase is made. Given the reference made in the preceding paragraph, a clearer definition of a "substantial increase" is needed.

3 The first line on page VI-12 states that the required floodplain development permit can be obtained from "DNRC's Floodplain Management Section or the county floodplain development coordinator...." This is incorrect. Flathead County administers the floodplain regulations in the project area and is the sole agency that can issue the permit.

4 Figure 14, Floodplains, shows the "Approximate 100-year Flood Boundary" and the "Floodway" as being the same. In much of the area, this is accurate; however, the FEMA maps designate a portion of the area within the 100-year flood boundary as floodway fringe. This area (which is different from the floodway) should be shown as such or the term "floodway" should be replaced with "floodplain". Also, the effective date of the maps listed in the caption is given as September 5, 1985. The correct date is September 5, 1984.

5 On page III-18, in Zoning and Land Use Controls, the statement is made that "the land use designations" in the applicable Master Plans "have no means of being implemented or enforced." This is incorrect. The land uses suggested in the Master Plan are implemented by the use of zoning, which is also the regulatory or enforceable means of land use management. This process is available although the project area has not been zoned as of the present. Work to institute County-wide zoning is underway and will probably be in place by the time this road project is completed.

6 Reference is made on page IV-44 to other governmental entities with responsibilities for land use management in the project area. The only entity listed is Flathead County. The U.S. Forest Service should also be included since the easternmost portion of the project runs through Forest Service land.

3. RESPONSE: The text was revised to indicate that Flathead County is the sole agency that can issue the floodplain development permit.

4. RESPONSE: Figure 14 was reprinted for the Final EIS and the word "floodway" was replaced with "floodplain" as suggested. The figure was revised to show September 5, 1984 instead of September 5, 1985 as the date of the FEMA map.

A similar comment is addressed in the response to comment 5 contained in a September 2, 1992 letter from Richard D. Gorton, Chief, Environmental Analysis Branch, Planning Division of the Department of the Army Corps of Engineers.

5. RESPONSE: This statement is incorrect and needs clarification. The text of the Final EIS was changed to indicate that the land uses suggested in the Master Plans are implemented by the use of zoning, which is also the enforceable means for controlling land uses. The new text also states that the process is and has been available throughout the project area, however, no areas have presently been zoned.

6. RESPONSE: The text of the sentence has been revised to state that the U.S. Forest Service also has management responsibilities for land uses in the project corridor.

David Johnson
Re: DEIS Project
November 13, 1992
Page 3

On page IV-2 is the statement that the cumulative impact of this and other (MUT?) projects in the County could lead to "a major loss of important farmland", but no further comment or mitigation strategy is offered. This statement should be more fully addressed since the agricultural industry plays such a major role in the Flathead Valley.

The last sentence of Indirect Impacts on page IV-49 states, "(s)ome facility users may choose alternate travel routes to avoid construction sites." In several cases earlier in the document, the lack of alternate routes is used as justification for the project being done.

This apparent inconsistency should be straightened out. The first complete paragraph on page IV-4 states that the proposal would have a "projected design year ADT of less than 8,000 vehicles per day..." However, Table 4 on page II-8 lists the project year ADT as 8,400.

The parenthetical note under the category label "Site Number" in Table 12 on page IV-13 says, "See Fig. 9". This should refer to Figure 16.

The caption on Photo 1 on page I-5 states the photo was taken "west of the intersection with US 2". For clarity, the caption should probably read "southwest".

Figure 9, Schematic Layout of Alternatives, incorrectly depicts the intersection of US 2 and Montana Highway 206. The westernmost portion of the project would transition into Highway 206, not U.S. 2. That is, Highway 206 is perpendicular to Monte Vista Drive and Berne Road.

The applicable label on Figure 13 should read, "Hungry Horse Reservoir".

The last item on page IV-55 should be changed from "Flathead County residents" to "Flathead County authorities".

On page IV-64, Note 37 should read "Dakin", not "Dagen". On the same page, Note 38 should be "Daly" instead of "Dayley"; change "Council" to "Corporation".

Appendix 10 should be amended to include PSI, Pavement Serviceability Index.

7. **RESPONSE:** By nature, many of the soil associations within the Flathead Valley meet the SCS's definitions of prime and unique farmland or locally important farmland. This statement is meant to indicate that continuing development of any kind in the Flathead Valley runs the chance of affecting soils that meet SCS definitions of important farmland. Conversion of important farmland to highway right-of-way is unavoidable in the project corridor. The effects of this conversion were evaluated according to the requirements of the Farmland Policy Protection Act. Evaluations determined that the land affected by the project is farmland of low potential and that consideration of alternatives to avoid impacting these lands was not necessary.

8. **RESPONSE:** This statement suggests that a certain portion of the users (particularly local residents) may elect to avoid construction delays and use other routes to reach their destinations. This would certainly occur if the public is notified in advance that long delays may be experienced in the project area. This is an indirect impact that may occur only during the construction period. The statement is not inconsistent with the reference to a lack of alternate routes through the area as one of many considerations that justify the project.

9. **RESPONSE:** This inconsistency was corrected in the Final EIS. The sentence referenced in the comment was changed to indicate a projected design year ADT of 8,850, not less than 8,000 as indicated in the Draft EIS. Note that this change was prompted by the consideration of 1992 traffic count data in the regression analysis used to project traffic volumes for the design year.

10. **RESPONSE:** The reference in Table 12 of the Draft EIS was revised as recommended in your comment.

11. **RESPONSE:** Reprinting the entire photo page to correct this minor discrepancy would be costly and is not warranted.

12. **RESPONSE:** Because several typical cross-sections are included with each of the build alternatives, Figure 9 is a simplified way to illustrate the major design features of each alternative. Some "artistic liberties" were taken with the scale of the drawing to ensure that the layouts of the alternatives would meet page limits for printing. This representation of alternatives is schematic by nature and US 2 and FAS 206 are clearly labeled for readers of the EIS. Changing the layout of the graphic to more realistically show the alignment of US 2 is unnecessary since the figure clearly shows the information it was designed to present to the reader.

13. **RESPONSE:** Figure 13 incorrectly identifies Hungry Horse Reservoir as "Hungry Horse". The figure was reprinted for the Final EIS to ensure that the reader is not confused about the location of the Hungry Horse community, the eastern terminus of the project.

14. **RESPONSE:** The text for the Final EIS was revised as suggested in the comment.

15. **RESPONSE:** The text for the Final EIS was revised as suggested in the comment.

16. **RESPONSE:** The text for the Final EIS was revised as suggested in the comment.

David Johnson
Re: DEIS Project
November 13, 1992
Page 4

Critical Planning Perspectives

Issue: The current situation in the corridor where the project is proposed creates, in effect, a bottleneck that tends to limit traffic moving through Badrock Canyon. This bottleneck, by association, also limits potential, possibly adverse development in the area. Adverse development may be defined in relation to the Flathead County and Columbia Falls Master Plans as strip commercial/industrial development or residential development in unsuitable areas removed from service centers.

Removing the bottleneck would open up the Canyon to more development and the associated impacts on the aesthetic, economic, and quality-of-life aspects of the project area. On page S-4 under the heading Adverse Impacts of the Project is the statement, "(p)ossible encouragement of additional development in the corridor." However, in the draft EIS this possibility is not seen as a major impact on its own. From the planning perspective of Flathead County, this is a serious problem that demands special review, since unplanned or uncontrolled development would disrupt the unique qualities of the scenic corridor from Columbia Heights to West Glacier.

Proposals:

In order to anticipate and otherwise mitigate the likely development that would occur in the Badrock Canyon area with the completion of the proposed project, a grant to Flathead County through the Flathead Regional Development Office to conduct citizen participation strategies and development an implementable land-use plan for the Canyon area. The grant would finance a staff planning position, associated secretarial and other support, supplies, and public meeting space (as needed).

If begun early enough, the Canyon area plan could incorporate guidelines regarding commercial and industrial development, residential subdivisions, and recreational facilities. The plan could also serve as a basis for developing land-use regulations, if necessary. Preferably, a creative system of land-use controls (transferable development rights, restrictive covenants, or other means, for example) would be developed in the participatory planning process.

17. **RESPONSE:** Please see the response to comment 4 contained in correspondence from Jonathan P. Deason of the U.S. Department of the Interior presented in his letter dated September 21, 1992.

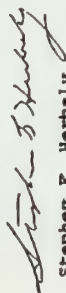
MDT has agreed to contribute a portion of the funding necessary to retain professional land use planning services for the US 2 corridor as requested by the Canyon Citizens Initiated Zoning Group.

David Johnson
Re: DEIS Project
August 31, 1992
Page 5

In this way, the project would not only address and improve the safety and design facets of the Badrock Canyon corridor, but also more fully address the economic, cultural, and recreational qualities of the area and the effect that the completion of the highway would have on them.

I certainly appreciate the opportunity to comment on this project and hope that Flathead County and Montana Department of Transportation continue the cooperative effort.

Sincerely,



Stephen P. Herbaly
Planning Director

SFH/hed/am

F:\FRDO\LETTERS\DEIS.LET



December 21, 1992
Certified# P 756 069 978



RECEIVED
MONTANA DEPARTMENT
OF TRANSPORTATION
DEC 23 1992
LEGAL SERVICES

Attn: (new) Secretary DOT & Dir.FHWA-D.C.
(new) Director MDT& FHWA-Helena,MT
MT Congressmen

RE: FHWA-MT-EIS-92-02-D/4(f)

PART I - MAJOR ERRORS IN DEIS/4(f)

(1) Oral & Written evidence of Battles at Bad Rock is ignored The DEIS/4(f) Evaluation wrongly claims there is no evidence of Indian battles, V-8. However, Library of Congress # 70-97513, written history of battle at Bad Rock Canyon, was provided to Applicant MDH/Peccia on 10/5/90 and at public hearing, 12/10/92. Contact Curly Bear Wagner for oral history on another battle. Bad Rock Canyon was a strategic location for warfare and control of access to the eastside Buffalo hunting grounds and the sacred mountains of ancient "Backbone of the World", now Glacier National Park. Bad Rock is the westgate of prehistoric travel routes to the Bear or Marias, Red Eagle, and Cutbank passes. Applicant MDT/Peccia received this evidence in 1990-91: (1) Man in Glacier, C.W. Buchholtz, Lib. Cong. #76-2988, map + pgs.3-7,21,29. (2) Transcript of Ted Ross - identifies old Indian Trail/original wagon road at Bad Rock Canyon.

1a

RESPONSE TO COMMENTS ON DRAFT EIS Coalition for Canyon Preservation Sharlon L. Willows (12/21/92)

1a.

RESPONSE: As the text on page III-25 of the Draft EIS indicates, representatives of the Cultural Committees of the Salish, Kootenai, and Blackfeet Tribes were consulted regarding this project. None of the representatives could place the battle at a specific location in Badrock Canyon.

In 1993, further investigations about the site of the Indian battle referenced by the historical marker in Badrock Canyon were performed. The findings of this additional research is summarized in an April 5, 1993 Memorandum from Jon Axline, MDT Historian, to Edrie Vinson, Chief of MDT's Environmental and Hazardous Waste Bureau. Mr. Axline researched historical records and found no references to a battle in Badrock Canyon in Flathead County prior to the installation of the historical marker on US 2 in 1938.

The placement of the marker prompted a response from a long-time resident (H.P. Stanford) indicating that the canyon was named for the tale road that passed over the mountain. The Indian "battle" occurred near the Soldiers' Home in Columbia Falls sometime between 1840 and 1879. According to Stanford, the Piegan Blackfeet raided into the valley and were met by the Salish and Kootenai. The Piegans then retreated to Badrock Canyon along the north side of the canyon and took up positions midway up Teakettle Mountain.

Salish-Kootenai "historian" Olga Weydemeyer Johnson reported an account of a battle in the Badrock Canyon area sometime around 1840. Johnson indicates that the Blackfeet were ambushed near the mouth of the canyon and driven toward Flathead Lake. Like Stanford's version, Johnson's narrative suggests that very little, if any, of the confrontation actually took place in Badrock Canyon.

Mr. Axline also found that another Bad Rock exists in Sanders County along the Clark Fork River between Plains and Thompson Falls. The historical record contains references to Bad Rock as early as 1809 and there are several accounts of violent confrontations between the Salish, Kootenai, and Blackfeet in this vicinity after that time.

Copies of the Mr. Axline's Memorandum were provided to the Blackfeet Tribal Chairman, Curly Bear Wagner of the Blackfeet Cultural Program, Clarence Woodcock of the Flathead Culture Committee, and Patricia Hewankorn of the Kootenai Culture Committee.

An evaluation of the old Indian trail/wagon road ("tole" road) in Badrock Canyon was completed in May, 1994. The text of the Final EIS/Section 4(f) has been supplemented in Parts III, IV, and V to include discussions of this feature of Badrock Canyon.

1

Refer to CCP Research paper raising a series of substantive issues and exhibits titled "Peccia/HRA's Report is Inadequate as Cultural Resource Survey and totally insufficient as 4(f) Evaluation", 4/22/92. The Wilkes/ Berne actual homestead (boundaries) were eliminated from consideration while the study focused on the dump. HRA's survey missed Billie Berne's pond & water system, still intact. HRA missed assessment and recording the Memorial Lions Fountain, that is in operation (DEIS erroneously states otherwise, V-5). HRA failed to conduct a local historical literature search as required by CA contract. The County libraries at Columbia Falls, Whitefish, and Kalispell are extensive and filled with local history.

(2) Geology & Grade

Misrepresented The "Affected Environment" section of DEIS erroneously states "the elevation of the (project) corridor ranges from 3,000 to 3,100 feet above sea level between Columbia Falls and Hungry Horse", III-1. First of all, the project elevation of 3,000 is at Columbia Heights, not Columbia Falls city which is lower. Secondly, the description totally omits that elevation at Bad Rock Canyon is 3,020 at Fishermans' Rock, USGS Geodetic Survey Marker. The 1984 FIRM Floodplain map shows Reference Marker 87 located 700 ft. west of Berne Road along U.S.2 to be elevation of 3,073. In other words, the DEIS is covering up the fact this project is one grade down (80 ft. drop from Columbia Heights to Fishermans' Rock) and another grade up (90 ft. climb from Fishermans' Rock to Hungry Horse). The Capacity Analysis for this project does not consider grade either.

(2)(A)(i) AASHTO Violation - Applicant failed to consider 50mph speed design for project that meets mountainous terrain criteria. This DEIS does not disclose nor consider project grades, a prerequisite for application of AASHTO design speed principles, "Green Book" p. 461. EIS preparers have erred by ignoring actual project grade. The Bad Rock Canyon segment of the project (House of Mystery to Hungry Horse) most certainly meets Mountainous Terrain design speed criteria (50mph), "Green Book" p.536. "Reduce speeds at Canyon or Heights" was listed as a very significant scoping issue identified by the public, DEIS VI-4. However, the EIS does nothing.

2

1b. **RESPONSE:** Criteria used to determine National Register eligibility was applied to the Berne homestead. It was determined that due to a loss of integrity, this property did not have the qualities that make it eligible for the National Register. The Montana SHPO concurred with this conclusion.

2. **RESPONSE:** The Affected Environment section of the Draft EIS is intended to provide a single description of the general project area. The identification of a general range in ground elevation along the US 2 highway corridor between Columbia Falls and Hungry Horse is appropriate. Many of the graphics in the Draft EIS, like Figure 12, are depicted on U.S. Geological Survey topographic maps. These maps fully disclose elevations within the project area.

Consistent with the procedures contained in the *Highway Capacity Manual, Special Report 209* (Transportation Research Board, 1985 and subsequent updates), a general terrain methodology was used in the highway capacity analyses performed for this project. This methodology estimates average traffic operational measures along a section of highway based on average terrain, geometric, and traffic conditions. Terrain is classified as level, rolling, or mountainous. The general terrain methodology was used instead of an analysis of separate grades because none of the grades associated with the existing or proposed highway would substantially impact (cause slow uphill travel speeds or increase downhill travel speeds) the operation of vehicles using the facility.

3. **RESPONSE:** Page A4-6 in the Draft EIS shows the proposed vertical alignment of the new highway and lists specific grades.

According to AASHTO's *A Policy on Geometric Design of Highways and Streets* (also known as the "Green Book" (pages 226 and 227 of the 1990 Edition):

Terrain classifications pertain to the general character of a specific route corridor. Routes in valleys or passes of mountainous areas that have all the characteristics of roads or streets traversing level or rolling terrain should be classified as level or rolling."

Further,

"Mountainous terrain is that condition where longitudinal or transverse changes in the elevation of the ground with respect to the road or street are abrupt and where benching and side hill excavation are frequently required to obtain acceptable horizontal and vertical alignment."

The project area has only one short area at the west end of Badrock Canyon where side hill excavation is needed and it does not have long, sustained grades that cause substantial reductions in travel speeds. Rolling terrain more aptly describes the general character of the project area. Therefore, a design speed of 60 mph is an acceptable design parameter for rural areas in rolling terrain. The posted speed limit for the corridor would be 55 mph.

The Draft EIS indicates that detailed engineering studies will be conducted to determine signalization and crossing needs in Columbia Heights. Likewise, travel speeds must be monitored and evaluated after the facility is in operation to determine if any change to the posted speed limit is warranted.

(2)(A)(ii) Section 4(f) Violation -Applicant fails to consider Avoidance Alternative. Section 4(f) Evaluation presents blatant lies in "Avoidance Alternatives Discussion"- a tunnel has NOT been actively considered as claimed, p.V-10. All of DEIS action alternatives involve floodplain and significant river construction that should be avoided. All of DEIS action alternatives require "blowing up" a massive portion of Columbia Mountain that includes a renowned photogenic waterfall, the west side of Berne Memorial Park, DEIS V-9. A tunnel alternative IS reasonable for consideration in this case (see AASHTO Green Book, pgs 421-423).

4a.

4a

RESPONSE: The concept of constructing a tunnel through Columbia Mountain as a means of avoiding impacts to Berne Memorial Park has been further investigated for the Final EIS. Contacts were made with the state highway agencies in California, Colorado, Minnesota, and Washington to obtain information on engineering requirements, construction techniques, and costs associated with tunnel construction. Additional text about the feasibility of incorporating a tunnel with the proposed action has been added to Part II: Alternatives of the Final EIS.

The information provided by other highway agencies was used to determine an appropriate range of costs for incorporating a tunnel on US 2 through Badrock Canyon. Based on this information, the estimates for constructing a two-lane tunnel for eastbound traffic ranged from \$46.5 to \$68.3 million. "Rough" information from the BPA, indicated that incorporating electrical transmission lines into a highway tunnel would conservatively add about \$4.5 million to the cost of a tunnel.

US 2 is included on the Interim National Highway System (NHS) designated by the State of Montana as required by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Excluding the Interstate System, the Interim NHS presently consists of some 2,100 miles of principal arterial roads. Estimates place Montana's total apportionment of federal funds for the NHS at about \$36.2 million for 1993 and successive years covered under ISTEA. The federal share of NHS-eligible projects is 86.58 percent. The State must provide the remainder of the funds for such projects.

As indicated above, including a tunnel (with no BPA facilities included) in Badrock Canyon could add as much as \$68.3 million to the cost of the proposed action. This would require a commitment of funds equal to nearly two years worth of Montana's apportionment for the entire NHS. To put the magnitude of the expenditure required for a tunnel into perspective, \$68.3 million is enough to completely reconstruct about 102 miles of typical rural two-lane road in Montana. Clearly, such a major funding commitment is unreasonable in light of other equally important needs for reconstructing segments of the National Highway System in Montana.

RESPONSE: Contacts were made with the Bonneville Power Administration (BPA) during the development of the Draft EIS, however, the agency's reconstruction proposal for the powerline corridor was not specifically known until after the publication of the Draft EIS. MDT was formally contacted by the Montana Department of Natural Resources and Conservation, Energy Division regarding this proposal and the agency's intent to prepare an Environmental Assessment on December 3, 1992. This governmental action in the project area has been discussed in the appropriate sections of the Final EIS.

The option of placing the electrical transmission lines underground or within a tunnel was addressed in the BPA's Draft Environmental Assessment as an alternative eliminated from further consideration. The primary reasons BPA eliminated this alternative were technical limitations on transmitting electricity underground, the excessive costs, and the visual intrusion into the area due to the need for constructing "mini-substations" at each end of the underground section of transmission line.

RESPONSE: The statement that a tunnel would cause impacts on the use of Berne Memorial Park was made for several reasons. Since the tunnel would separate traffic flows on US 2, a connection between the eastbound and westbound travel lanes would be needed to allow eastbound motorists to turn around to visit the park without going all the way to Hungry Horse. It is likely that some current users of the park (particularly seasonal visitors to the area that spontaneously stop at the park) would not bother to "backtrack" to visit the park. The construction of connection between the east and westbound travel lanes could itself be the source of major environmental concerns.

It is conceivable that boring a tunnel through a portion of Columbia Mountain behind Berne Memorial Park could disrupt the flow of water at the spring in the park. This concern is raised without the benefit of detailed hydrogeological investigations about the water source.

Even with the provision of a tunnel in Badrock Canyon, substandard geometric conditions are present along the existing alignment for westbound traffic. Modifying the alignment to correct these deficiencies may still require cliff excavation, affect features of the park, or encroachments on the Flathead River and associated riparian areas.

4b. Consideration of tunnel alternative was identified in scoping, however the EIS does nothing but give bogus excuses, II-1.1. BPA/DOE and FHWA could pool federal funds to build a tunnel in approximate BPA powerline easement area for two lanes east plus powerlines. Two lanes west would then qualify as State Historic Roadway through Bad Rock Canyon/Berne Memorial Park. DEIS ignores concurrent federal agency proposal to rebuild powerlines over Bad Rock Canyon (S-1), a NEPA violation.

4c. DEIS wrongly claims "impacts on the use of Berne Memorial Park" as a reason for eliminating a tunnel from consideration, II-1.1. In fact, the tunnel will fully preserve the historic and spectacular drive through Bad Rock Canyon/Berne Memorial Park for future use. A tunnel west entrance to Glacier National Park/Great Bear & Bob Marshall Wilderness merits actual consideration and would create many more jobs for local economy while preserving the outstanding resource for tourism and marketing.

(2)(B) LANDMARK & LANDFORM

DESCRIPTIONS HAVE BEEN OMITTED *DEIS fails

to disclose that Bad Rock Canyon is a geologic natural landmark, a serpentine gorge cut over the centuries by the icy onslaught of Montana's famous Flathead River. The erosional power of the river for thousands of years, and glaciation forces for millions of years, has created the distinctive cliffs at Bad Rock Canyon/Berne Memorial Park. The Bad Rock geologic landmark serves as a significant landscape for the entire Flathead Valley region (ie. three historic feature photos in "Stumptown to Ski Town", Lib.Cong.#73-80255.pgs24,30,34). The FEIS should appropriately feature the Bad Rock Canyon landscape on its' cover and within the content.

*DEIS fails to disclose Bad Rock Canyon is a prehistoric

landmark, the geologic gateway to what is now Glacier National

Park/Great Bear & Bob Marshall Wilderness areas, what was known to the ancient indigenous peoples as the sacred "Backbone of the World". Historic context has been eliminated from EIS as validated by SHPO, VI-58. See Glacier Park's 1988 Cultural Resources Management Plan - indigenous peoples have used the area 12,000 B.C. to present, p.7. Bad Rock Canyon/Berne Memorial Park meet federal criteria for both Historic and Natural Landmark, 36 CFR 62.5 & 65.4.

(3) Major Error - Section 7 Mitigation & review IS required for Grizzly crossing at BadRock's wooded travel corridor

There IS evidence of bear crossings and grizzly bears have been sighted near or in the project area, contrary to falsified information in Biological Assessment (BA-p.10) and DEIS (IV-29,30). These substantive issues, field observation forms, and request for correction of major error were raised substantially by CCP, 4/30/92 (please refer to this package for evidence this corridor IS known to be valuable for bears moving n/s of US2). See attached map recording bear crossings at the Bad Rock river corridor, west entrance to NCD Grizzly Bear Ecosystem. Bad Rock is the only segment of wooded crossing corridor between BMUs linking N. Swan/S.Whitefish Ranges. Further Section 7 Consultation is required to develop Conservation Measures for bear crossing such as maximum retention of wooded security cover and reforestation to within 15 ft. of paved shoulder (see BO for Coram-W.Glacier, 8/25/81). The DEIS provides no mitigation whatsoever for major logging proposed for the Bad Rock corridor, wrongly hidden under "Miscellaneous Local Impacts", IV-39.

- 5 **RESPONSE:** MDT acknowledges that Badrock Canyon is a distinctive natural landmark.
- 6a. **RESPONSE:** The boundaries of Glacier National Park and the Wilderness Areas were established by Congress.
- 6b. **RESPONSE:** Glacier National Park's Cultural Resources Management Plan and other supplemental information on the history of the area provided by the CCP is by reference incorporated into the EIS.
- Only the Secretary of the Interior can designate Natural and Historic Landmarks. Even if this area were designated as a Natural or Historic Landmark, no additional protection beyond Section 4(f) would have been afforded to the property.
- 7a. **RESPONSE:** The statements made in the Biological Assessment and the Draft EIS questioned by this comment were the opinions of wildlife management officials familiar with the situation in the project area.
- A statement was added to the text of Part IV in the Final EIS indicating that wildlife observation forms provided by the CCP show that grizzly bears have been sighted in the general area of US 2 between the House of Mystery and Hungry Horse.
- The USFWS concurred with the conclusion that the proposed action will not adversely affect the grizzly bear in its Biological Opinion (see pages VI-63 through VI-68 of the Draft EIS). The agency made no recommendation for further consultation regarding the proposed action's effects on grizzly bears or habitat.
- 7b. **RESPONSE:** Vegetation must be cleared from areas of new right-of-way to accommodate the construction of the new highway. Page IV-39 of the Draft EIS suggests that some areas where right-of-way clearing would occur may have marketable timber and could generate some revenue if it was cut and sold. The extent of timber cutting and other right-of-way clearing would be controlled by the construction limits of the final design for the highway.
- Abandoned areas of the existing highway between Berne Memorial Park and Hungry Horse will be reclaimed by removing the old road surfacing and reforesting the right-of-way.

(3) (A) MORE ERRORS IN GRIZZLY SECTION - (1) The BA (p9) and DEIS (IV-29,33) give erroneous location for project area that lies in the South Fork Grizzly Bear Management Unit. The Whitefish unit is on the other side of the Flathead River ! (2) Situation 1 Grizzly habitat DOES lie to the north and south of the Bad Rock Canyon project section. DEIS erroneously states "project corridor south of Bad Rock Canyon does not lie within grizzly bear habitat", IV-29. (3) DEIS misrepresents supposed "field studies conducted by MDFWP biologists" that do NOT exist that we know of. CCP research will be investigating Consultant's series of phonecalls to verify actual statements of MDFWP biologists. (4) Footnote #32 is wrong.

8

8.

RESPONSE: The Grizzly Bear Recovery Plan, Second Draft (June 1992), states that recovery zones for the species are the areas contained in each grizzly bear ecosystem within which the population and habitat criteria for achievement of recovery will be measured. Each recovery zone is divided into areas designated as Bear Management Units (BMUs) which are used for habitat evaluation and population monitoring.

Figure 23 in the Draft EIS was taken from graphical information presented in the *Final Programmatic Environmental Impact Statement Summary, The Grizzly Bear in Northwestern Montana* prepared by the Montana Department of Fish, Wildlife & Parks (FWP) in March, 1986. This document referenced Grizzly Bear Management Units (BMUs), however, the term related to a management situation where the hunting of the grizzly bear was permitted. The FWP's use of the term BMU is applied to grizzly bear ecosystems management in an entirely different context than that referenced in the *Grizzly Bear Recovery Plan*. For this reason, Figure 23 has been deleted from the EIS.

Henry Rivera, USFS Wildlife Biologist for the Hungry Horse Ranger District, was contacted during the preparation of the Final EIS about the location of the proposed action in relation to BMUs within the Northern Continental Divide Grizzly Bear Ecosystem (NCDE). Mr. Rivera indicated that based on detailed mapping of the NCDE recovery zone and associated BMUs, the project area lies within the Hungry Horse Bear Management Unit.

Figure 24 clearly shows that the project corridor lies entirely within Management Situation 2 grizzly bear habitat. The figure also shows that Management Situation 1 habitat exists some 2-3 miles south of US 2 and more than 5 miles north of the existing highway. Mapping for grizzly bear habitat in the vicinity of this project obtained from Mr. Rivera in June, 1993 verified the statement made in the Draft EIS.

The sentence on page IV-29 of the Draft EIS has been modified for the Final EIS to read:

"The portion of the project corridor west of Badrock Canyon does not lie within grizzly bear habitat."

Reference 32 in the Draft EIS was correct based on the graphics in the *Final Programmatic Environmental Impact Statement Summary, The Grizzly Bear in Northwestern Montana* prepared by the Montana FWP. However, based on new information provided by Henry Rivera, this reference was modified for the Final EIS to read: Henry Rivera, USFS Wildlife Biologist, Hungry Horse Ranger District, Hungry Horse, MT. Personal Communication June 9, 1993.

(4) Major Error - See Section 4(f)
Deficiencies, Part III of this comment, pgs/12-12.

(5) Major Errors in Biological Assessment
(&DEIS):

(A) Habitat affected by the proposed action (Fig. 4/BA) is in error. Bad Rock Canyon's primary Bald Eagle foraging and perching location has been omitted from Fig. 4 and discussions of Direct Effects.

9

(B) The Wetland and Riparian Assessment is in error (Fig. 2 in BA/Fig. 17 in DEIS):

(i) Eagle habitat between mp 140.2-140.5 is "7" (Mature Cottonwood and conifer habitat).

(ii) Berne Memorial Park is "7" (Cottonwood and conifer habitat).

(iii) Upper homestead at west entrance to Bad Rock Canyon is open water (Billie Berne's pond & water system = wetland).

(iv) Plant community on NE side of Columbia Mountain is cedar/yew.

The Riparian Assessment distorts information and impact analysis by misuse of "Disturbed" as wetland/landtype.

10

9.

RESPONSE: Specific milepost references for areas where bald eagles historically congregated were not used to describe the habitat affected by the proposed action. However, the text on page 4 of the Biological Assessment and on page IV-22 of the Draft EIS provides a description of the area between the House of Mystery and Berne Memorial Park historically used by bald eagles.

10.

RESPONSE: The Final EIS contains a redelineation of wetlands in the project corridor based on the 1987 Corps of Engineers Wetlands Delineation Manual. The redelineated wetlands are shown on FIGURE III-6 in the Final EIS. The figure now identifies wetlands and riparian communities and specifies where jurisdictional and non-jurisdictional wetlands exist according to the guidelines contained in the Manual.

PART II - MAJOR OMISSIONS IN DEIS

In 1982, the prior EIS denoted Badrock as a sensitive area because of its importance to Native Americans, Bald Eagles, and Berne Memorial Park, III-15. The 1982 FEIS was developed pursuant [632 F.2d 774-786 (1980), Ninth Circuit]. Now, this 1992 DEIS on Badrock Canyon denies and omits that importance.

11a

(1) PREHISTORY OMITTED FROM DEIS - Prehistory is another of Bad Rock Canyon's significant and outstandingly remarkable values under National Natural & Historic Landmark Law @ 36 CFR 62.5/65.4 and National Wild and Scenic Rivers Act (WSRA) @ PL 90-542 (1968); PL 94-436 (1976-Flathead River); (Bad Rock "port of entry" eligible @) 47 FR 39457-8 (1982). Prehistoric significance of Bad Rock Canyon listed below.

11b

(2) BAD ROCK CANYON IS OMITTED FROM DEIS As validated by SHPO, "The whole question of Bad Rock Canyon is also left unaddressed "...VI-58,39.

Significances of Bad Rock Canyon are:

(A) Significant regional landscape -ie. see Stump Town to Ski Town, Lib. Cong.#73-80255, historic photos on pgs 24,30,34. Bad Rock Canyon is the geologic west entrance to Glacier National Park and the Great Bear and Bob Marshall Wilderness Areas. The DEIS provides no visual representation of Bad Rock Canyon. Geology is another of the outstandingly remarkable values at Bad Rock Canyon that make it eligible for protection under WSRA. EIS information on Geology omits and obfuscates unique features at Bad Rock Canyon (such as elevation @ Fisherman's Rock is 3,020,III-1).

12a

(B) Significant prehistoric travel corridor - ie. Transcript of Ted Ross, 6/3/83, "the old Indian trail is still there" (at Bad Rock Canyon,p3)-provided to MDH/SHPO, Feb. 1991. The old "tote" or wagon road followed the original Indian trail.

12b

(C) Bad Rock Canyon was strategic location for warfare and control of access to prehistoric travel routes Bad Rock Canyon is the west entrance to the Bear or Marias Pass, Red Eagle and Curbank passes that traverse the Continental Divide to eastside Buffalo hunting grounds. The Blackfeet controlled this westgate for 100 years between 1750-1850's, strategically keeping westside tribes and whitemen out of the ancient "Backbone of the World", now

12c

6

11a.

RESPONSE: Text in the Draft EIS and supplemental materials prepared for the document are devoted to the very features and resources (particularly Berne Memorial Park and habitat used by bald eagles) that are listed in the comment as reasons that this area is sensitive.

Substantial effort was devoted to examining design and location options for US 2 through Badrock Canyon that would minimize impacts to these sensitive resources. Formal consultation with the USFWS was undertaken because of the proposed action affects bald eagle habitat in the project area. Similarly, the Section 4(f) Evaluation focused almost entirely on effects of highway reconstruction on features of Berne Memorial Park.

11b.

RESPONSE: Please review the responses to similar comments made previously in comments 6a and 6b.

12a.

RESPONSE: CCP comments about the misrepresentation of the geology of the area are addressed in the response to comment 2 presented earlier.

12b.

RESPONSE: A cultural resource evaluation of the "tote" road was completed in May, 1994 by Historical Research Associates of Missoula. Research and field investigations found little evidence that relates Native American travel through the area to the specific route followed by the "tote" road. The historical records and personal accounts do indicate that Badrock Canyon was generally used as a travel corridor by Native Americans. However, the most notable and readily observed features of the "tote" road relate to its construction and use after 1891 when the Great Northern Railroad was built through the area.

Additional text identifying the "tote" road and its location relative to the proposed action were added to Part III of the EIS. Text describing the impacts of the proposed action on this old road has been added to Part IV of the Final EIS and to the Section 4(f) Evaluation. Comments made by Mr. Ross have been included in the Final EIS.

12c.

RESPONSE: Materials provided by CCP regarding historic use of the area were reviewed during the preparation of the Draft EIS. The material does provide a general historical context to the Flathead-Glacier region and discusses the movements of Native Americans across the Continental Divide. However, these sources do not present information specific to the area affected by the proposed highway reconstruction project.

Glacier National Park. Contact Curly Bear Wagner, Blackfeet Cultural Director. Other resources went unused that CCP Research sent to MDH/Peccia (5/14/90) showing the prehistoric trail network (see Man In Glacier, Lib. Cong.#76-2988, travel route map + pgs. 3-7,21-22).

(D) Significance of the Rocks at Bad Rock Canyon The DEIS does admit "Precambrian rocks form the distinctive cliffs of Bad Rock Canyon", III-2. These rock protrusions in the canyon were used as ambush and lookout locations. The Bad Rocks are a distinct visual and historic quality that are not given due consideration. The DEIS arbitrarily claims rock cliffs at Berne Park are not "actively used" (V-4), when in fact, these distinctive & scenic cliffs are the primary scenery ! Contact Curly Bear Wagner about significance of the rocks. Please note the correct historical name is Bad Rock (two words) - this needs correction throughout the FEIS/4(f).

The wall of ice that forms at the west cliff spring is famous, making the front page photography of news in 1991 when mountain climber practiced here. *This significant photogenic feature and function of the Park has been ignored.* The DEIS arbitrarily attempts to portray this area as not "actively used" ! There are numerous welltravelled mountain trails leading to the various rock cliffs. Applicant has wrongfully ignored economic "worth" of aesthetic/visual/scenic functions and characteristics at Bad Rock/Berne Park. As stated at the public hearing, whomever wrote the (EIS,Chap.V) obviously has never been to Berne Memorial Park. Chapter V exemplifies gross, arbitrary and capricious, knowing bad faith violation of 23 CFR 771.155(p).

12d

12e

Curly Bear Wagner and other members of the Blackfeet Culture Committee were contacted during the preparation of the Draft EIS. These contacts did not locate anyone knowledgeable of the battle described by the historic marker at Berne Memorial Park in Badrock Canyon. A memo documenting the contact with Mr. Wagner is on file with MDT.

Please review the response to comment 1a for additional research about the relevance of the historical marker in Badrock Canyon.

12d. **RESPONSE:** As indicated above, Curly Bear Wagner was contacted during the preparation of the Draft EIS and related documents. MDT has and will continue to maintain regular contacts with Tribal Cultural Committees during the subsequent development of the proposed action.

Tribal Culture Committees have expressed concern to MDT that sacred places not be made public. MDT respects this concern, and the location of non-impacted cultural sites are not discussed in any public document.

12e. **RESPONSE:** The predominant location where activities occur in Berne Memorial Park is the turnout itself. The turnout is used every time a park visitor stops to view the roadside exhibits, collects water at the spring, picnics or hikes in the cliffs above the park, or just pulls over to allow traffic to pass. MDT recognizes that other recreational uses occur within the legally defined boundaries of the park and at Fisherman's Rock, a recreation site outside the boundaries of the park.

The 1.8 acres of "active" recreation area at the park identified in the Draft Section 4(f) Evaluation refers to the area encompassed by turnout and the area where picnic tables are located in the rocks above the park. This designation attempted to make a distinction between the areas of the park where frequent use occurs and those available for other uses.

This designation may be confusing to some readers of the document. To clarify this matter, the last sentence in the first paragraph on page V-5 was modified for the Final EIS to read:

"Most of the man-made features at Berne Memorial Park occur on about 1.80 acres of the 8.45 acre property. This acreage includes the area occupied by the existing roadside turnout and the area above the fountain where picnic tables are positioned. Recreational use of one kind or another can occur on nearly all of the property."

Subsequent discussions under D. Impacts to Berne Memorial Park on pages V-6 through V-13 were revised for the Final Section 4(f) Evaluation to identify that the 1.80 acres refers primarily to the area occupied by the existing roadside turnout. Similarly, Figure 26 will be revised.

The author of the Draft Section 4(f) Evaluation visited Berne Memorial Park on to identify and photograph features of the park area. The author also met with a representative of the Kootenai Culture Committee at the park to discuss potential impact on sacred places in Badrock Canyon.

(3) DEIS entirely omits Streambank Protection measures as required by State law, MCA 87-5-501-509. DEIS pretends that significant removal of mature cottonwood/conifer vegetation along the river bank has no value whatsoever for prevention of erosion. Large trees stabilize the steep river bank, mp 140.2-140.5. State-of-the-art in streambank protection is needed to save Bald Eagle perch trees located along the Flathead River/US2 where the bank is steep. Large wire containers full of rock (Gabions) should be considered to reinforce the bank while maintaining riparian vegetation.

13

13.

RESPONSE: The encroachment on the Flathead River necessary to construct the preferred alternative begins immediately east of Fisherman's Rock. The construction limits for proposed the new road in the area identified as MP 140.2 to 140.5 by the CCP generally do not extend beyond the edge of the existing road nearest the river, therefore, no impacts to this riparian vegetation will occur as a result of highway reconstruction.

Development of the proposed river access on the property near the House of Mystery would remove less than one-half acre of riparian vegetation. This impact was disclosed in the Biological Assessment and the Draft EIS. The USFWS considered the impact of removing this vegetation in its Biological Opinion.

This comment assumes that no change in the alignment of US 2 in this area is necessary. Impacts on the riparian cottonwoods and conifers located opposite Berne Memorial Park and beginning at about MP 140.9 or MP 141 could only be avoided by shifting the proposed alignment of the new highway away from the river toward the easternmost cliff at Berne Memorial Park. Such an alignment shift would produce unacceptable impacts on all of the park's features.

MDT investigated the use of alternate design measures, such as the placement of gabions, steepened fill slopes, a retaining wall, a cantilevered roadway section, and building the road on piers to minimize the encroachment on the Flathead River. The results of these investigations are documented in Part II: Alternatives and in Part IV: Environmental Consequences, 4. Floodplain Impacts of the Final EIS.

14.

RESPONSE: The EIS is a disclosure document that identifies the impacts of this proposed reconstruction project on US 2, it's purpose is not to determine whether or not an access control plan is necessary. Control of access is presented on page IV-44 together with a number of other measures that can be implemented in certain instances that would help control land use adjacent to the highway. Zoning based on sound land use planning is the only sure way that future land uses develop along the highway in a manner acceptable to the majority of local residents.

An Access Control Plan was prepared for this project in June, 1990. The text of the Final EIS in Part IV and Appendix 1 has been revised to indicate that this document is available and on file with MDT. Because the real estate market in Flathead County is volatile and changes may occur before the project is completed, the Access Control Plan will be reviewed before right-of-way acquisition begins so changes in approach needs can be designed into the project.

(4) DEIS Omits Mitigation - Access Control Plan Needed

The need for Access control was identified as a significant planning issue, however, the DEIS does nothing. DEIS presents access control as a mitigation (IV-44) but admits nothing has been done yet (Appendix 1). This major omission needs correction in Final EIS. An access control plan is needed for rural areas to control ugly strip development and billboards at scenic west entrance to the Canyon. The MDT proposed 4-access-per-mile for rural areas south of Kalispell - this should appropriately be considered a reasonable mitigation for the rural areas adjacent Bad Rock Canyon.

14

Part III - Arbitrary Capricious & Bad Faith

(Critical Omissions/Distortions)

Background:

1980 - # FHWA-MT-EIS-81-02-D. Consultant Peccia&Assoc received CA contract to prepare EIS/4(f) ordered by the Ninth Circuit Court for Bad Rock Canyon area, Hungry Horse-W. Glacier, CCP v. Bowers (1980), 632 F.2d 774-786.

1984 - (See 1989-90 Scoping records for FHWA-MT-EIS-92-02-D - Summary of Peccia's 1984 violations, CCP v. Barnhart)

1989 - Consultant Peccia&Assoc. received the second Certification Acceptance Contract for preparation of EIS/4(f), this time for Bad Rock Canyon *per se*. Peccia received the second EIS contract for the Canyon area because of his "approach", not because he was the low bidder (Beck, MDH Legal).

1992 - # FHWA-MT-EIS-92-02-D. Applicant MDH/Peccia release DEIS/4(f) for public and agency review (July-Dec). CCP Research shows Peccia again perpetrated innumerable bad faith schemes (in concert and initiated by MDH/MDT officials) to manipulate essential decisionmaking information in this EIS/4(f) for Bad Rock Canyon *per se*. Applicant proposes to "blow up" culturally & environmentally sensitive Bad Rock Canyon/Berne Memorial Park, a geologic and historic landmark, US2 west entrance to Glacier National Park and the Great Bear/Bob Marshall Wilderness complex.

15. **RESPONSE:** The CCP has no factual basis for asserting that MDT and the Consultant retained for this project have violated federal or state environmental laws.

Consultant selection was based on approved policies for the agency. Cost is only one of the considerations for the selection of consultants.

The preparers of the EIS have followed appropriate Federal and State guidance and policies for the preparation of environmental impact statements.

Section 7/ESA Deficiencies:

(1) (A) Bear Crossing thru wooded corridor at Bad Rock has not been disclosed/mitigated (N.Swan/S.Whitefish Range travel corridor). Disruption of wildlife travel corridor was identified as a very important EIS scoping issue (DEIS VI-4). A review of NEPA/ESA scoping records shows (4) bear crossings were reported into project records. Consultant failed to reveal these bear sightings and failed to use and apply expertise on bear management for the project area (Pl. Exhibit 33, Dr. Charles Jonkel). In bad faith, the Biological Assessment (BA) wrongly concludes "no evidence/impacts" and arbitrarily decides that existing wooded cover close to the highway is not important to grizzly bears for crossing cover (p.10). The DEIS reflects these misrepresentations and errors .IV-29,30. The EIS conceals a major logging operation for the project under "Miscellaneous Local Impacts" for which no mitigations have yet been developed (IV-39). Further Section 7 Consultation is required.

16. **RESPONSE:** Please review previous responses to comments 7a and 7b.

(1)(B) Bald Eagle Impact Disclosure Needed.
 DEIS fails to disclose that a known Bald Eagle foraging area at the west entrance to Bad Rock Canyon will be totally impacted (DEIS misrepresents the impact as "removal of a few trees", IV-23). The DEIS fails to disclose that all perching trees for a major spawning/foraging area are scheduled for removal (to be replaced with an informational exhibit !). The DEIS fails to assess further destruction of riverside perching habitat created by "Replacement Park" proposal. The DEIS fails to disclose BadRock Canyon's primary Bald Eagle perching/foraging concentration site, mp 140.2-140.5, is at the west Canyon entrance alongside US2.

17

17.

RESPONSE: The Draft EIS clearly identifies that these riparian cottonwoods and conifers would be removed with the proposed highway reconstruction in the following locations (see pages S-2, S-3, S-4, III-11, IV-15, IV-16, IV-17, IV-23, IV-24, IV-25, VI-66 and VI-67 of the document).

Major kokanee spawning areas along the Flathead River in the vicinity of the project were identified in narrative fashion on pages III-12 and IV-22 of the document and referenced in the Biological Opinion written by the USFWS. It is equally important to note that indicates that migratory salmon populations have collapsed in recent years and bald eagle use of the area has dramatically declined from previous levels (see text on page IV-22 of the DEIS). The attachment provided by CCP presenting bald eagle sightings in the area would seem to indicate substantial decreases in bald eagle observations after 1985.

A supplemental discussion of the impacts to 0.4 acres of riparian vegetation (in the general area referenced by the CCP as MP 140.2 to 140.5) due to the proposed construction of the river access site was submitted to the USFWS prior to the issuance of the agency's Biological Opinion. The Draft EIS discloses the impact on riparian vegetation resulting from construction of the river access on page IV-24. Highway reconstruction would not disturb riparian vegetation in the MP 140.2 to 140.5 area.

The proposed action's impacts on habitat important to bald eagles was the reason undertaking both informal and formal consultation with the USFWS during this project. The development of an exhibit at the replacement park area that discusses bald eagles and their use of the area was a conservation measure aimed at increasing the public's awareness of the species and its habitat needs. Many visitors to the area are not present during the time when bald eagles may be more numerous in the region. The Biological Opinion lists the conditions required for reinitiating formal consultation about this proposed action.

Arbitrary "Conclusions" (DEIS IV-26) are NOT supported by Bald Eagle expert. The DEIS fails to disclose and adopt Bald Eagle Expert's scientific expertise - "avoid further habitat destruction...it is no longer reasonable to look at each relatively small habitat change as inconsequential, particularly in riparian areas...imperative that no more screening or perching vegetation be cut along the river in the Badrock Canyon area"-B. Riley McClelland's comment of 5/7/91. BadRock Canyon is one of the few locations where motorists can view Bald Eagles "cruising the river" as they drive by. The known worth of "watchable wildlife" has been ignored. See PART I(5)-Major Errors in Biological Assessment/DEIS, p__of this comment. The DEIS omits Streambank Protection measures as required by state law, MCA 87-5-501-509, pretending all the riverbank riparian vegetation scheduled for removal has no value for erosion prevention !

18

18.

RESPONSE: Mr. McClelland's comments were made in correspondence to Mr. Rob Hazelwood, Endangered Species Biologist with the USFWS dated May 7, 1991. Mr. Hazelwood was the primary agency representative contacted by MDT during informal and formal consultation with the USFWS. He was also extensively involved in drafting the Biological Opinion.

Mr. Hazelwood served as Chairperson of the Montana Bald Eagle Working Group during the development of the *Montana Bald Eagle Management Plan* completed in 1986. Mr. McClelland was also a member of the Bald Eagle Working Group during the same time. The USFWS issued its Biological Opinion with full knowledge of Mr. McClelland's and other with similar concerns about habitat fragmentation. The Biological Opinion quotes a part of his May 7, 1991 letter (see page VI-67 in the second paragraph under Cumulative Effects).

Mr. McClelland was also contacted during the preparation of the Draft EIS and of the Biological Assessment. Both documents occasionally make references to his concerns over the continued loss of habitat for the species. The *Montana Bald Eagle Management Plan* discusses habitat loss and was consulted for habitat management recommendations during the development of the Biological Assessment.

MCA 87-5-501 through 509 which outline the stream protection responsibilities of the Montana Department of Fish, Wildlife & Parks (DFWP) requires that plans and specifications for a construction project that may affect stream environments must be provided to the DFWP. The statutes also require the DFWP to review construction plans and offer recommendations or alternative plans to eliminate or minimize adverse effects. Even though this proposed action has yet to receive design approval, it has already been coordinated with the DFWP's Stream Protection Coordinator. Further development of this project will be carried out in compliance with the Stream Protection Act.

19. RESPONSE: OEA Research reviewed the bald eagle observation forms provided by CCP. Little use of this information was made because of the collapse in kokanee salmon populations in the mid-1980's dramatically affected bald eagle use of the area. The Draft EIS and the Biological Assessment acknowledge frequent use of the area by concentrations of bald eagles prior to the loss of salmon as a major food source in the mid-1980's. The observation forms for 1981 through 1985 provided by CCP clearly show high use of the area by eagles but are not representative of drastically reduced numbers of eagles that now use the area since the decline of an important food source.

Contacts were made with B. Riley McClelland and with Gary Gregory in an effort to determine bald eagle use in the Badrock Canyon area of the Flathead River and in the region after kokanee populations collapsed. The results of these contacts were incorporated in discussions contained in the Draft EIS and Biological Assessment.

20. RESPONSE: The list of recreation sites on page III-25 did not include Berne Memorial Park. However, the Draft Section 4(f) Evaluation, whose purpose is to identify the effects of a proposed action on recreational, historic sites, and other properties was devoted almost entirely to Berne Memorial Park. The list of recreation sites presented on page III-25 of the Draft EIS has been expanded to include Berne Memorial Park as recommended by the comment.

On 1/25/90, CCP Research entered 71 pages of Bald Eagle sightings and behavior descriptions for Bad Rock Canyon into project records (Natural History Field Observation Forms - 1981,83,84,85). Applicant MDT/Peccia made no use whatsoever of this project specific information (OEA Research simply returned the information to CCP on 11/27/91, without use or application).

Section 4(f) Deficiencies:
(2) Draft EIS/4(f) Misrepresents Berne Park Functions, ie. V-5.10. - The DEIS does not disclose recreational functions of the project's only State "Historic Site" in the region, Bad Rock Canyon/Berne Park. The scoping process for this DEIS clearly showed preservation of the historic park to be the primary public concern in this EIS process, VI-5. Nevertheless, popular Berne Memorial Park was eliminated from DEIS list of project Recreation sites, III-25.

(2) (A) EIS does not meet 4(f) Information

Requirements - To justify the "Replacement Park", DEIS/4(f) wrongly assumes that a major function of Berne Memorial Park is rafting access. This is not true. CCP Research spent 32 hours taking vehicle use counts @ Berne Park during peak hours/peak summer traffic for three recent years (1986,1988,1989). These Persons accessing river with rafts from Berne Park are rare. These data sheets were submitted to Applicant during scoping in good faith. Results showed an average 52 vehicle stops/hr during peak summer use. The 4(f) Evaluation process made no effort to assess or define existing use, then arbitrarily demeaned substantial use data provided by CCP Research ("the data is unverifiable and insupportable", V-6). Then, the 4(f) Evaluation misrepresents CCP Research at Berne Park- 32 total hours of 15-minute long vehicle counts were taken during peak summer traffic (EIS preparers misrepresent CCP data as 32 15-minute counts, V-6). These are examples of bad faith and wrongful NEPA/4(f) procedural planning.

21a

21a.

RESPONSE: The Draft EIS/4(f) Evaluation indicates that floater/fisherman access to the Flathead is one of several uses available at Berne Memorial Park and does not present rafting as a "major" use. The document stresses the safety concerns caused by people accessing the river by parking at Berne Memorial Park and crossing the highway.

The replacement parkland will include a boat ramp to provide river access. This facility was proposed by the USFS since the agency has identified the need for a river access along this stretch of river for years. The site near the House of Mystery fulfilled the needs of the agency for developing such a facility and offered a chance to enhance recreational opportunities for the public.

21b.

RESPONSE: The CCP counts of vehicles at Berne Memorial Park made over three years on various days during the summer, primarily the month of July. The comment that the data was "unverifiable and insupportable" was made because the CCP extrapolated one average use number (40 vehicles per hour) from short-term counts collected only during one month of the year.

Reconstructing the average use numbers from the raw data provided by CCP was difficult since the counts appear to be focused on traffic turning into the park from one direction only while ignoring park users from the other direction. We could not understand how an accurate count of use could be made if this procedure was used.

Based on the data in our files from CCP, the Draft Section 4(f) Evaluation correctly represents the use information for Berne Memorial Park as 32 15-minute long counts. A tabulation sheet provided with the CCP vehicle use forms (see page 4 of CCP letter to Roger Scott, FHWA Division Administrator dated February 28, 1990) identifies the information as "32 15-minute manual counts of vehicle use at Berne Park." The data tabulated by CCP represents 8 hours of counts not 32 hours as the comment suggests. **(Please note that a subsequent follow-up memo from Sharon Willows presented later in this document corrected her misstatement in this comment.)**

The Draft EIS does acknowledge that the CCP data suggests "frequent public use, especially during the summer" on page V-6. In response to this comment, a summary table presenting CCP's tabulation of vehicle use at Berne Memorial Park in the Final EIS/Section 4(f) Evaluation. The information is shown in TABLE V-1 of the Final Section 4(f) Evaluation.

21b

22. **RESPONSE:** The text of the Draft Section 4(f) Evaluation (see page V-5 "Function of or Available Activities") identifies virtually all of the activities listed in this comment in a somewhat less eloquent manner. Viewing scenery or wildlife will be added to the section of the Final Section 4(f) Evaluation that describes available activities at the park.
- Commercial enterprises may occur, however, these activities are not permitted within highway rights-of-way.
- 23a. **RESPONSE:** The EIS focuses on impacts to the entire highway corridor between Columbia Heights and Hungry Horse, not just the portion of the project located in Badrock Canyon.
- 23b. **RESPONSE:** Section 4(f) permits the "use" of land for a transportation project from properties like Berne Memorial Park only when there is no feasible or prudent alternative to such use and when the project includes all possible planning to minimize harm to the property resulting from such use. There are no feasible and prudent alternatives to the use of land from Berne Memorial Park. For these reasons, mitigating measures, like the development of replacement parkland near the House of Mystery and others identified in the Draft Section 4(f) Evaluation, have been proposed for impacts on the park.
- 23 CFR 771.135 indicates that a "use" of Section 4(f) land occurs:
- ☐ when land is permanently incorporated into a transportation facility;
 - ☐ when there is a temporary occupancy of such land that is adverse according to Section 4(f) statutes; and
 - ☐ when there is a constructive use of such land.
- A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) resource by the project's proximity impacts are so severe that the activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired. The concept of constructive use is not appropriate in this instance, since the proposed action would permanently incorporate land from Berne Memorial Park into the transportation facility.
- Either the direct use of Section 4(f) land or the constructive use of a 4(f) resource triggers the need to evaluate the impacts of the proposed action and identify measures to minimize harm to the resource according to provisions established under 23 CFR 771.
- 23c. **RESPONSE:** Please review the response to comment 12e presented previously.

(2) (B) Functions & Use Characteristics of Berne Park are: viewing scenery, river photography, fishing from Fishermans' Rock, stopping to rest in cool shade of large cottonwood & conifer, picnic, getting cool drink of water, reading the shaded historic exhibits, wandering up the cool mountain, flea market sales, obtaining quantities of water, and wildlife viewing.

(3) Elaborate Scheme to Violate Section 4(f) @ 23 CFR 771.135(p)- The DEIS skillfully defrauded the DEIS/4(f) by eliminating essential information, major omissions and errors, and various schemes to circumvent Section 4(f)/NEPA/WSRA. This document is excessively biased (not one scenic or historic photo of Bad Rock Canyon is presented), a "snow job" of useless bulk at open odds with purpose and intent of numerous federal laws. The entire Section 4(f) Statement was performed outside of explicit new regulations for "constructive use" of public parkland.

Applicant MDT/Peccia concealed the "taking" of public parkland with wrongful claim that recreational use occurs on only 1.8 acres of the 8.4 acre property (V-3,6). In fact, ALL 8.4 acres of Berne Park are used for recreation! The bogus "unused park areas" (V-4) include numerous well worn mountain trails, park shade trees, picnic areas and unique scenic features such as the west cliff waterfall. This EIS/4(f) is an overall bad faith attempt to downplay and obfuscate the functions and characteristics of a significant historic and natural landmark, Bad Rock Canyon and Berne Memorial Park.

23a

23b

23c

(4) 4(f) Evaluation Misrepresents Impacts to Berne Park & circumvents 23 CFR 771.135(p)(2)(4)(ii)(iii)- The actual plan to impact Berne Park is not revealed in the 4(f) Evaluation, but instead, is shown @ Figure 21,IV-5. Figure 21 shows complete restriction of free access to all park functions, no parking, only access provided will be 2-3 vehicles at a time , lined up to get water and contained within a 1-way modern controlled access berm. There will no longer be free access to any of the Park features.

24

24.

RESPONSE: In this instance, the Draft Section 4(f) Evaluation is a companion document to the DEIS. The Draft Section 4(f) Evaluation discloses the impacts to Berne Memorial Park on pages V-6 through V-13. Repetition has been reduced by referencing or summarizing other Draft EIS materials pertinent to the Draft Section 4(f) Evaluation.

Plans for the Berne Memorial Park area near the public water source (including a reference to Figure 21) is included on page V-13 of the Draft EIS/Section 4(f) Evaluation. This material indicates that modifications to access, parking and circulation in this area is proposed.

(5) Major Errors -Section 4(f) Evaluation:

(A) All of the alternatives substantially restrict access to the spring, the stone fountain, the picnic sites and shaded rest area (IV-5). The 4(f) Evaluation falsifies this proposal for complete access restriction by stating "none of the alternatives would affect (use of these park facilities)... "most of the facilities would not be directly impacted..." V-9.

25

25.

RESPONSE: Text on page V-9 indicates that the use of some park facilities would be affected by the loss of vehicle parking is disclosed on page V-9. Access to features at Berne Memorial Park would change with the proposed reconstruction through this part of Badrock Canyon. Unrestricted traffic in and out of the existing roadside park is an undesirable source of traffic conflicts, particularly during the summer when traffic on US 2 is high. After the proposed reconstruction and widening of US 2, the roadside area remaining at Berne Memorial Park would not large enough to accommodate well designed parking areas and internal circulation for a high use recreation site.

The construction of the preferred alternative would affect the westernmost cliff area the park but not the spring, fountain, or natural areas above much of the park. The extent of construction in the vicinity of the spring and fountain is limited and enough of the turnout would remain to provide a separated turnout for users of the water source.

The proposal to develop replacement parkland at an area just west of Badrock Canyon is intended to help offset the loss of recreational opportunities at Berne Memorial Park. Affected features like the exhibit signs would be relocated to the replacement park.

The sentence on page V-9 referenced in this comment has been revised to say most of the "features" instead of facilities.

(B) Criteria for "Active Recreation Area Lost" on Table 16 (V-13) is bogus, a bad faith intent to diminish and obfuscate total direct impact to all park function and features. The 4(f) Evaluation does not discuss impairment to the characteristics that make the site historic (such as free access to enjoy Park facilities, shade, scenery, and recreation features). Instead, the 4(f) Evaluation makes an arbitrary determination that 1.8 acres is "actively used park" and the rest of the park is not used for recreation! Shade trees and scenic park features such as the distinctive cliffs and water fall are wrongly considered "unused park area".

(C) Replacement Park does NOT replace the unique features and functions of historic Berne Memorial Park. In exchange for "taking" Berne Park, the DEIS/4(f) proposes a "Replacement Park" located on top of the hill outside west Bad Rock Canyon in a treeless noxiousweed-infested dry field adjacent the House of Mystery, V-13,17. Instead of controlling access, the proposal calls for increasing access with construction of a massive 4-way urban intersection on the hill/curve at scenic west entrance to Bad Rock Canyon. Replacement Park is wrong with unsafe access- the recreational intersection should be relocated completely away from the hill/curve at the west entrance to the Canyon. Applicant MDT's determination that a hot dry field (that never belonged to Billie Berne) is "appropriate location" to replace Berne Park is arbitrary, V-13. Scenic riverside areas between Berne Park and South Fork Bridge would be comparable alternative location for "Replacement Park" proposals.

26

26. RESPONSE: Please review the response to comment 12e presented previously.

27a

27a. RESPONSE: Although Figure 29 in the Draft EIS is very detailed, it is intended only to illustrate the features proposed for the replacement park area. No detailed design has been prepared for this site. The preliminary layout proposed for the intersection of Berne Road and the approach to the replacement park area is elaborate because high seasonal use of these recreational facilities is anticipated. Separation of turning and through traffic on US 2 would help to minimize traffic conflicts at this future high use location.

The elevation of the new road surface would be raised above that of the existing roadway and the curve in this area would be made less severe. These proposed alignment modifications would eliminate the two conditions that presently restrict the view of oncoming vehicles on US 2 for motorists stopped on Berne Road. The new intersection would be designed so that motorists wishing to enter US 2 from the approach to the recreation site or from Berne Road would have views of oncoming traffic that meet geometric guidelines and sight distance requirements. Enhancement measures, including tree plantings, will be included in the design of the new facility. The area will be improved substantially from its present conditions. Efforts are currently underway to develop and implement a reclamation plan to eliminate noxious weeds at the proposed replacement parkland area.

27b

27b. RESPONSE: Other locations within the project corridor including riverside locations toward Hungry Horse were investigated for possible use as replacement parkland. For reasons like parcel size, terrain limitations, and the ability to provide easy and safe access to the area, these other sites were eliminated from consideration. The USFS's interest in developing a river access site in the area was also a consideration in choosing the replacement park area. This development proposal provides a possibility to enhance recreation opportunities in the area in addition to helping mitigate the project's impacts on Berne Memorial Park.

The portion of the Berne homestead east of Berne Park was eliminated from consideration because of the presence of the 230 KV electrical transmission line and the fact that the river could not be accessed without crossing the highway. Acquiring property previously owned by Billie Berne was not the primary consideration for locating a site for replacement parkland.

(D) Further Obfuscation of Park Features- EIS photos of historic plaque and exhibits are fuzzy and unreadable, further obfuscating the issues (V-8). Clear photos should be used to disclose the content of exhibits. The photo of Fishermans' Rock makes this notable feature appear miniscule and insignificant (V-7).

Prehistoric and historic cultural resource properties are not disclosed, instead, are presented as nameless numbers (V-2,3). The Memorial Stone Fountain is operable at present (error, V-5). The spring commemorated by the bronze plaque and small waterfall are located at the western cliffs of Berne Park scheduled for removal (error, V-5 wrongly locates them "near the stone fountain"). The bronze plaque was placed at a distinctly separate spring other than the primary water source.

Part IV WRONG PROCEDURES - HEARING REQUIREMENTS HAVE NOT BEEN MET 23 USC 128.

(1) ONE-ON-ONE DISCUSSIONS VIOLATED SECTION 4(F)(V) SECTION 128 -Explanation at the public hearing did not include adverse environmental impacts required @ 23 CFR 771.111(h)(2)(i)(v)(A)(C). *Explanation at public hearing provided false information about adverse impacts to 4(f) property* (State Historic Site/Berne Memorial Park). Applicant proposes to cut down the shade trees, remove free access, eliminate all parking for picnic/hike/photo rest opportunities, and "blow up" a wellknown spectacular winter waterfall/ unique cliff at Bad Rock Canyon while ignoring constructive use statutes @ 23 CFR 771.135(p)(1)(2)(4)(ii)(v), et al. See attached Affidavit from Lee Proctor, public participant of a one-on-one discussion at public hearing where agency official lied about impacts to Berne Park ("It would look just the same as it does now, and parking would be just the same"). This documented misinformation and bad faith misconduct calls into question all comments written by highway officials.

(2) 23 CFR 771.111(h)(2)(vi) IMPROPER HEARING PROCEDURE BY APPLICANT MDT/PECCIA - "The transcript will be accompanied by copies of all written statements from the public..." The Applicant perpetrated a scheme to obtain support for their project featuring "one-on-one discussion with highway officials", a squad of highway officials were acting like secretaries, transcribing public comments into written format. We express concern about this improper procedure to obtain project support and request that all comments written by agency officials be individually signed by responsible officials and kept separately from actual written statements from the public.

28a

28a. **RESPONSE:** The photos and descriptions in the document sufficiently identify of the park features mentioned in the comment. The photos of the inscriptions on the plaque and exhibits are readable.

28b

28b. **RESPONSE:** Cultural resource properties are typically identified by the use of such a numbering scheme because many sites discovered through surveys can not be linked with commonly identified names or features. The integrity of cultural properties, even those that are not important sites, can be preserved by not fully disclosing their specific locations. Detailed maps of sites are typically contained in cultural resource surveys and used for impact assessment purposes.

The fountain appeared inoperable during several stops at the Berne Memorial Park made by the preparers of the EIS. However, the text of the Section 4(f) Evaluation has been revised to indicate that the fountain is operable condition.

The text of the EIS was modified to indicate that the bronze plaque dedicates a spring located at the west end of Berne Memorial Park not the main spring located at the turnout.

29

29. **RESPONSE:** The presentation at the hearing as well as a brochure available to the public upon entering the meeting room described beneficial and adverse impacts of the proposed action. Particular attention was devoted to identifying impacts in Badrock Canyon and at Berne Memorial Park.

30

30. **RESPONSE:** The "open forum" type format has been successfully used on other recent highway reconstruction projects not only in Montana but the rest of the country. The opportunity for the public to offer comments to agency representatives on a "one-on-one" basis was intended to encourage comments from those members of the public that are uncomfortable with speaking in front of a large group. All comments, whether supportive of the project or not, were encouraged from the public. Agency representatives transcribed oral comments into written form so they could be entered into the record for this project.

(3) 23 CFR 771.111(h)(2)(iv) - HEARING NOTIFICATION VIOLATES SECTION 128 -AND- REQUEST FOR FINAL EIS/4(f) HEARING TO RECTIFY NONCOMPLIANCE.

Reasonable notice to the public about the hearing did NOT present compliance information; instead, focused on adversarial proceedings: "Invitation is hereby extended to all interested persons to attend said hearing, to submit written briefs or verbal testimony either for or against the project", Project F1-2(39)138, 10/26/92. "Section 128 hearings are not adversarial; they are for the purpose of informing the public of the social, environmental and economic effects of the proposal", Publication #FHWA-CC-89-003, The Effects of Environmental Lawsuits on Program Operations, Dec. 1988.

We have further concerns about wrongful conduct at the hearing where only one highway official, Dan Bartsch, was in attendance while noisy "one-on-one" discussions were held on the other side of a curtain, making it very difficult to hear the testimony. Dan Bartsch did not ask those testifying to stop while the tape was being changed. The hearing was billed as having secondary importance to the "one-on-one" scheme that does NOT meet fundamental requirements for Federal-aid highway program compliance. *CCP Research hereby requests another formal hearing opportunity be held for the Final EIS/Section 4(f) Evaluation to rectify these improper administrative procedures and achieve Section 128 compliance in this EIS/4(f) process.*

PART V - DEIS/4(f) Evaluation fails to consider location "Avoidance Alternatives"

See Part I,(2)(A)(ii) on p. 3 of this comment. The DEIS ignores concurrent BPA proposal to rebuild the powerlines over Bad Rock Canyon, to Hungry Horse Dam, S-1. This is a violation of NEPA. There IS another major federal action proposed for the project corridor. Federal agencies could pool funding for a tunnel (2 lanes eastbound traffic plus bury the powerlines). Historic Berne Park would then be fully available for public use (2 lanes westbound - rock cliffs would not cause sight distance problems in this direction). The westbound roadway through Bad Rock/Berne Park would qualify for the Montana's Historic Roads Program.

The DEIS/Section 4(f) Evaluation makes false claim - a tunnel has NOT been considered, V-10. A tunnel alternative would straighten the alignment, avoid significant impacts to river floodplain, save longterm driving time/energy, remove the visual obtrusion of BPA powerlines, save historic Berne Memorial Park and the rugged beauty of Bad Rock's cliffs, and provide unique economic opportunity and jobs far surpassing existing proposal to "blow up" the spectacular landmark. What is the state-of-the-art in tunnel construction? This construction would be justified for the west gateway to one of our nation's last wilderness bear ecosystems remaining in the lower 48 states, NCD GBE (DEIS,III-15). A 1/2 mile tunnel for 2 lanes-plus-BPA powerlines should be considered in EIS process to achieve NEPA/4(f) requirements for consideration of

31a. RESPONSE: The hearing provided another opportunity for the public to comment on all aspects of this project and the Draft EIS. A presentation describing MDT's reconstruction proposal, the beneficial and adverse environmental impacts of the proposed action, and mitigation commitments was made during the meeting. Additionally, a brochure summarizing the ways comments could be made and major elements of the Draft EIS was made available to all those who attended the hearing.

31b. RESPONSE: There were more than twenty representatives of the FHWA, MDT, and various cooperating agencies present at the meeting. Many of these representatives spent some or all of their time listening to public testimony.

The public hearing for this project was in held in accordance with all administrative requirements of the Federal highway program. Holding another hearing on this project is unwarranted.

32a. RESPONSE: Please review the response to comment 4 presented previously.

reasonable "feasible& prudent" alternatives. Appropriate for Bad Rock may be the "Daylight Portal" tunnel with striking examples on US Hwy 84/OR and along Old US2/WA. Testimony at the public hearing gave recent construction examples of tunnels in other states. *Other state-of-the-art environmental design alternatives for river construction have NOT been considered such as candeliver (bridge substructure using piers to build highway away from parkland).*

PART VI - Bad Rock Canyon/Berne Memorial Park meet criteria for National Historic & Natural Landmark. 36 CFR 62.5.65.4. See Part I (2)(B) of this comment, p.2

PART VII- Comments on Affected Environment - Chap. III

(1) DEIS omits Berne Park - The description of developed Recreation sites on the project conspicuously omits Berne Memorial Park (p.25). Why was the most popular recreation site left off the list? Berne Park is a very significant historic recreation site on the project and cannot be eliminated from "Affected Environment" discussion in bad faith.

(2) Rural Approach to Canyon is NOT part of Columbia Heights unit -The EIS Landscape units do not make logical sense as described on p.III-27. The 1/2 mile of open lands between House of Mystery and the mouth of the Canyon should be part of the Badrock Canyon Landscape unit. The DEIS wrongly places the rural entrance to the Canyon in the Columbia Heights landscape unit. Milepoint 140.-140.5 is part of the Canyon unit where views of the river and bald eagle perching area begins. This area is NOT typical of the commercialized strip development of Columbia Heights ("Land uses change abruptly to open pastureland between the House of Mystery and Badrock Canyon", III-17). The river corridor between House of Mystery and the mouth of the Canyon is NOT part of Columbia Heights Landscape Unit. This EIS is playing politics rather than applying: (1) sound principles of environmental design, (2) WSRA guidelines for definition of river corridor area, and (3) ESA regulation for definition of action area.

32b.

RESPONSE: Totally avoiding impacts on Berne Memorial Park and Fisherman's Rock can only be accomplished by building the proposed four-lane highway on a location away from the park. In this instance, two evident locations for the new road would be on an alignment incorporating a tunnel through Columbia Mountain or by shifting the location of the road further into the Flathead River. As discussed earlier in these responses to comments, the high cost of building a tunnel makes this location option unreasonable given limited amounts of funding.

32b

Building the highway on an alignment well into the Flathead River to avoid Berne Memorial Park was examined during the preparation of the Section 4(f) Evaluation. Construction along such an alignment would require the use of piers or a massive fill to support the new road. While this alignment may be a means of avoiding or minimizing impacts on Berne Memorial Park, it would result in substantial encroachments on the Flathead River and would remove large amounts of the riparian cottonwoods/conifers that serve as bald eagle habitat.

33

For the reasons discussed above, building the proposed action on an entirely new location in Badrock Canyon was eliminated from consideration for this project. The use of a retaining wall, cantilevered structural system, piers, and other design modifications were investigated for the preferred alignment through Badrock Canyon. These measures offer a means to reduce the encroachment on the Flathead River. Based on these investigations, the preferred alternative in Badrock Canyon has been revised to include a vertical retaining wall along the Flathead River. This measure would reduce the encroachment by nearly 80% over the design proposed in the Draft EIS.

34

RESPONSE: Please review the response comment 6b presented previously.

34.

RESPONSE: Berne Memorial Park has been added to the list of recreation sites presented on page III-25 of the Draft EIS. The Draft Section 4(f) Evaluation is devoted almost entirely to the recreational and other aspects of Berne Memorial Park.

35.

RESPONSE: A 1988 publication titled *Visual Impact Assessment for Highway Projects* was developed by the FHWA Office of Environmental Policy to assist highway agencies in identifying visual resources and visual impacts. This publication provided the basic guidance for establishing landscape units in the project area. According to this publication, landscape units are usually enclosed by a clear underlying landform (like mountains or valleys) or landscape (surface waters, vegetation and manmade development) boundaries. A landscape unit can be thought of as a complete visual environment, while the different landscape types (landform and landcover) are perceived only as parts of that visual

35

The establishment of the two landscape units for the corridor was made based on the distinct change in underlying landform that occurs at the mouth of Badrock Canyon east of Berne Road. The broad Flathead Valley abruptly changes from level and rolling terrain to at steep cliffs at the mouth of the Canyon. There is no doubt that the extent of manmade development, the type of vegetative cover present, and the presence of surface water changes within the Columbia Heights landscape unit. However, these features are considered landscape components within the overall landscape unit.

None of the comments from management agencies indicate that the proposed highway reconstruction could cause a downgrading of the existing classifications of Wild or Scenic Rivers in the project area. Nor have any comments indicated the proposed action would foreclose future options to add the Flathead River through Badrock Canyon to the list of Inventory Rivers.

PART IX - Deficiencies Environmental Consequences, Chap IV

- (1) Logging the Canyon is Major Impact -- The EIS does NOT discuss conservation measures for the proposed logging operation, IV-39. Logging the Canyon is NOT a "Miscellaneous Local Impact" ! Exactly what is going to be logged ? Are minimum right-of-way clearings going to be used? Will selective cutting be used? What wildlife crossing mitigations are being taken to retain wooded cover? This last remaining wildlife crossing corridor between the N. Swan Range and Whitefish Range needs specific planning and mitigation. How will hiding cover be protected to maintain this travel corridor between BMUs within NCD GBE? In 1991 the Interagency Grizzly Bear Committee (IGBC) agreed that insularization of BMUs within bear ecosystems was not a DFC (Desired Future Condition).

36

36. RESPONSE: Please review the response to comment 7b presented previously.

Part X - Errors, Errors, & More Errors Throughout DEIS/4(f)

- (1) Re: Supplemental Discussion of Impacts for Biological Assessment, map of west Hungry Horse used for EIS is in error: 5th St. should read 6th St, 6th St. should read 7th St.
- (2) Land Use description in error (III-17) stating "Lands between Berne Memorial Park are generally vacant...open lands". This area is generally heavily forested without development.
- (3) DEIS misstates the true name of Flathead Economic Development Corporation, IV-64, #38.

37

37. RESPONSE: The error in street labeling in Hungry Horse on page A4-5 of the Draft EIS has been corrected for the Final EIS.

38

38. RESPONSE: The sentence on page III-17 of the Draft EIS has been changed to read as follows in the Final EIS:

" Lands between Berne Memorial Park and Hungry Horse are generally heavily forested and undeveloped."

39

39. RESPONSE: Footnote 34 on page IV-64 of the Draft EIS has been revised for the Final EIS since neither Carol Daly's name or her organization is correct.

- (4) Floodplain Errors. DEIS erroneously disregards data from the 1964 flood and states "None of the existing alignment falls within the area designated by FEMA as floodprone", III-4. The entire alignment of US2 through the restricted Berne Park area is floodprone, was flooded in 1964, and was part of the Corps of Engineers' subsequent study area not disclosed in EIS. *DEIS has failed to coordinate and consult local agency with full expertise in area flooding.* Contact Kalispell office of USGS, Jim Finley. Mr. Finley was very concerned about DEIS error disregarding 1964 flood data and stresses that "100 year flood" is a misnomer. The flood potential for this area has not been revealed. The area has been flooded several times in last 100 years (ie. 1883, 1948, 1964).
- (5) Figure 15 (III-8) -and- Figure 19 (III-19) fail to apply criteria from new 1982 Final Guidelines for Eligibility and Management of Wild and Scenic River Areas, 47 ER 39454. The Bad Rock Canyon river corridor is clearly eligible under these federal guidelines. All federal agencies involved have persistently ignored diligent application of these new planning requirements in *this EIS process.*
- (6) TSM Alternatives assessment is in error, II-10. The new, 1991 ISTEA requires consideration of the efficient use of existing facilities and the effect of transportation decisions on land use and land development, while encouraging use of alternate routes to the same destination. The draft EIS is in error by stating "other routes enabling motorists to bypass the corridor and lessen congestion on US2 do not exist". This is false. Flathead County Route 436 accesses the high-standard Camas Road entrance to Glacier National Park. Whomever made the TSM assessment didn't bother to look at a map. This available alternate route to Glacier Park should be shown in FEIS. The overall ISTEA compliance is perfunctory and superficial.
- (7) DEIS wrongly claims the project terrain is "level to gently rolling (therefore) 60 mph speed design is appropriate", A1-2. See PART I(2) of this comment showing project grade and geology has been grossly misrepresented/omitted in this EIS/4(f) process.
- (8) Error: "The plaque commemorating the spring would be moved closer to the spring and fountain", V-13. There are two springs at Berne Park - the source of drinking water and the spring adjacent the west cliff waterfall where the plaque is located. The plaque commemorates a distinct springs and does not commemorate the water source.
- 40a. **RESPONSE:** The statement on page III-4 of the Draft EIS is incorrect and was revised for the Final EIS. The revised sentence indicates that a portion of the existing alignment crosses a FEMA-designated floodprone area just downstream from the existing bridge over the South Fork of the Flathead River.
- 40b. **RESPONSE:** Similar concerns about the definition of the 100-year flood contained in the Draft EIS were received from other agencies that reviewed the document. In response to these comments, the text for the Final EIS has been modified to define the base flood as a flood event which has a 1% chance of being equaled or exceeded in any given year. This definition is consistent with the National Flood Insurance Program definition of a base flood. The new text also indicates that flood events of this magnitude have occurred at least five times on the Flathead River in the past 100 years.
41. **RESPONSE:** The reach of the Flathead River located downstream from the Recreational River segment in the project area was not considered in the *Wild & Scenic River Study Report, Flathead River* (USFS, 1975). This segment was not studied because it generally lies outside of the proclaimed boundaries of the Flathead National Forest and the management responsibility for lands adjacent to the river fall under many jurisdictions.
42. 47 Federal Register 39455 indicates that rivers can be added to the National Wild and Scenic Rivers System by either an act of Congress or by the Secretary of the Interior upon application by the Governor of Montana. Neither Congress or the Governor of Montana has requested that the portion of the Flathead River downstream from the Recreational River segment be added to the Wild and Scenic Rivers System.
- It is notable that a coalition of federal, state, and county agencies recently secured technical planning assistance for the Flathead River corridor from the confluence of the South Fork and the main stem to the north shore of Flathead Lake. Personnel from the National Park Service's River and Trail Conservation Assistance Program will oversee and guide the development of a river management plan for the corridor. Fisheries, wildlife, recreation, agriculture, and water quality issues associated with the main stem of the Flathead will be addressed in the plan.
43. **RESPONSE:** While Flathead County Route 486 may be an alternate route from Columbia Falls to Glacier National Park, it does not provide a convenient connection to communities along US2 between Columbia Falls and West Glacier.
- New text about alternate routes and a figure showing their locations has been included in the Final EIS.
43. **RESPONSE:** Please review the response to comment 2 for information on how grade was analyzed in the highway capacity analyses.
44. **RESPONSE:** Remounting the plaque at a similar location on the newly excavated rock face can be included as a "special provision" work item for the contractor selected for this reconstruction project.

(9) DEIS description of "Existing Landscape" has numerous errors, III-26. "The project is situated on the north eastern edge of a broad valley..." The DEIS obfuscates the urban blight at Columbia Heights with the attributes of Bad Rock Canyon: "Natural scenic value and scenic quality" is descriptive of the Bad Rock Canyon river corridor, NOT a description of the "project corridor" as stated. Specifically, Columbia Heights/Col. Falls is located "about 15 miles southwest of Glacier", not Bad Rock.

(10) Re: "other highway users are exposed to views in Bad Rock Canyon unit for about three minutes", III-27. DEIS omits the fact that viewing scenery is a major function of Berne Memorial Park, where users can be exposed to spectacular views for much longer. DEIS attempts to trivialize the value of Bad Rock's scenery by stressing the short exposure time. In fact, numerous prolonged river vistas are seen on this drive, rather than "glimpses" as stated !

(11) Landscape Unit parameter in error: DEIS admits "the existing highway parallels the south side of the Flathead River through the (Bad Rock Canyon landscape unit)...the quality of the views in the corridor are the highest in the Bad Rock Canyon Unit...the rock cliffs and proximity of the river provide a substantial change in the landscape", III-27.

The DEIS arbitrarily delegates a major segment of the river drive to the Columbia Heights Landscape Unit -mp. 140.2-140.5, further obfuscating the relevant issues. The entire rural west entrance to the Canyon (approaching & along the river up to west cliff) is part of the Bad Rock Canyon Landscape Unit, NOT the Columbia Heights Unit ! This DEIS represents a concerted bad faith effort to ignore river informational study requirements, please defer to 47 ER_39454-61 new federal guidelines for river areas and to ESA definition of "Action Area", 50 CFR 402.2.

45. **RESPONSE:** The description on page III-26 of the Draft EIS has been revised for the Final EIS to indicate that the project corridor is situated at the "northeastern" edge of a broad valley as suggested by the comment.

This sentence is correct as stated in the Draft EIS and indicates project's general location relative to Glacier National Park, an area widely acclaimed for its natural scenic value and high visual quality.

46. **RESPONSE:** This section of text addresses views from the road for facility users. Consistent with FHWA guidance, the section describes the viewer groups that use the facility, the kind of views available from the road surface, and the typical length of time that motorists passing through this part of the corridor are exposed to visual resources.

As indicated earlier in these responses, viewing scenery from Berne Memorial Park has been added to the discussion of available functions and activities on page V-5 of the Draft Section 4(f) Evaluation as recommended. Text on page III-27 of the Draft EIS discussing views of the road was revised for the Final EIS to indicate that park users are afforded prolonged views of the nearby existing highway and Flathead River and distant views of the Flathead Valley and mountainous areas of Glacier National Park from vantage points in the cliffs of Badrock Canyon.

At an assumed travel speed of 40 to 50 miles per hour, the Flathead River is visible only for a short time as motorists travel the corridor from the House of Mystery area past Berne Memorial Park. Terrain and the dense vegetation obscures the river from view during much of the year at points east of the park.

47. **RESPONSE:** The landscape units were so designated because the Badrock Canyon section of the project area represents a substantial change in the visual environment from the area between Columbia Heights and the mouth of Badrock Canyon. Please review the response to comment 35 for information that provided the basis for designating landscape units within the project corridor.

48. **RESPONSE:** 47 Federal Register 39454-61 pertains to the National Wild and Scenic Rivers System and discusses studies of rivers for their suitability for inclusion in the system. These rules do not mandate consideration of specific landscape units when addressing the impacts of a potential project on the view.

It is assumed that this comment references 50 CFR 402.02 since there is no 50 CFR 402.2. The definition of "action area" contained in 50 CFR 402.02 indicates that the impacts of a proposed action (in this case highway reconstruction) on threatened or endangered species is not limited to the immediate project area. The definition of action area relates only to the Endangered Species Act of 1973, as amended and does not relate to the project's impacts on visual resources.

Discussions in the Draft EIS and Biological Assessment about indirect and cumulative impacts on threatened or endangered species were consistent with the concept of examining the effects of a proposed action beyond the strict limits of a project. The USFWS also examined the proposed action in accordance with the provisions of 50 CFR 402.

(12) DEIS misrepresents status of sensitive plant species review by pretending that one phone call is sufficient and wrongly implying that a study has been performed showing "no species of concern have been previously located within the study corridor", III-9, III-29(10). Professionals have raised concern about this error&omission ("The plant life on the north slope of Columbia Mountain is diverse and should be better studied", ex-Park Ranger Jerry DeSanto, 12/12/92). *The DEIS obfuscates the fact no sensitive plant study has been performed for the lush and unique vegetation in Berne Memorial Park/N. slope of Columbia Mountain.*

49

49.

RESPONSE: The Draft EIS makes the statements about plants of special interest or concern on the basis of contacts with the Montana Natural Heritage Program and with the USFS. The Natural Heritage Program maintains current records identifying the locations and results of previous vegetation studies performed in the state. OEA Research performed a field reconnaissance of the highway corridor during June, 1989 and did not find any sensitive plant species.

The last paragraph on page III-9 of the Draft EIS does imply that a study of sensitive plant species has been done for the project corridor when indeed no studies exist. The following paragraphs have been added to the text of the Final EIS:

Maidenhair spleenwort (*Asplenium trichomanes*), small yellow lady's slipper (*Cypripedium calceolus* var. *parviflorum*), spalding campion (*Silene spaldingii*), and spurred genetian (*Halenia deflexa*) are all species of concern that were historically (during the 1890's) observed but not recently confirmed in the vicinity of the proposed highway reconstruction project. The latter three species have been located in Flathead County but in areas considerably away from the US 2 corridor. Spleenwort has not been recently observed in Flathead County.

The Flathead National Forest lists giant helleborine (*Epipactis gigantea*), northern bastard toadflax (*Geocaulon lividum*), and blunt-weed pondweed (*Potamogeton obtusifolius*) as sensitive plant species that may occur on the Hungry Horse Ranger District in the vicinity of US 2.(10)

Marginal habitat for all of these plant species were encountered within the study corridor. None of the above mentioned species were found during a field reconnaissance conducted in late June, 1989.

50

50.

RESPONSE: These sentences are correct as stated in the Draft EIS and refer to CCP's concerns about the use of the 30th highest hourly volume as a design parameter for the facility. A June 14, 1990 memo from CCP to MDOH and FHWA refers to the permanent counter as being located in an urban area and that other design hourly volumes are appropriate for this facility. Correspondence dated November 20, 1990 from CCP to Lyle Manley also refers to the permanent counter as being located in an urban area.

51a

51a.

RESPONSE: The word "undeveloped" in the referenced sentence was deleted for the text of the Final EIS/Section 4(f) Evaluation.

Please review the response to comment 1a previously presented for a discussion of the historical marker in Berne Memorial Park.

51b

51b.

RESPONSE: Please review the response to comment 22 previously presented.

(13) DEIS (S-5) makes false claims about CCP's supposed assertions about location of the permanent traffic counter. Omit both false sentences beginning with "The group asserts....design."

(14) Re: Function of Available Park Facilities, V-5. Description errors by emphasizing "limited undeveloped trails" when trails are numerous, wellworn and easily found. Description errors by claiming the exhibit signs relate information on "historical background of the region", when in fact, it is "historical background of Bad Rock Canyon" *per se*. This description fails to inform that Bad Rock Canyon is one of the Montana's official Historic Points, see Historical Highway Markers, by Bradshaw (no. 89), sold by the Montana Historical Society. Description errors by omitting opportunity to view scenic features, a major function of Berne Park. The entire Park is a facility for viewing scenic features.

(15)

(16)

(17)

PART XI - Overall Failure to Apply Legal Planning Guidelines and Regulations

- (1) 1982 WSR Guidelines have not been applied, 47 FR 39454-61. Description of the river corridor is a requirement of these guidelines. The undeveloped west Canyon entrance is part of the Canyon river corridor and is NOT part of the Columbia Heights Landscape Unit, a commercial strip area. This DEIS represents a concerted bad faith effort to ignore river informational study requirements. 52
- (2) DEIS fails to apply National Register Bulletin 22 - Evaluating properties that have achieved significance within the last 50 years. Bulletin 22 guidelines should be applied to Berne Memorial Park *per se* and to its collective memorials including the Stone Fountain. 53

- (3) Extensive new 4(f) regulations for constructive use @ 23 CFR 771.135(p) have NOT been implemented. Neither did EIS preparers utilize recommended 4(f) advisory T6640.8A for informational requirements. 54

52. RESPONSE: Please review the response to comments 47 and 48.

53. RESPONSE: According to National Register Bulletin #15, the memorials at the park would be considered under Criteria Consideration F. Page 39 of this Bulletin states:

"They are not directly associated with the person's productive life, but serve as evidence of a later generation's assessment of the past. Their significance comes from their value as cultural expressions at the date of their creation [early 1950's in this instance]. Therefore, a commemorative property generally must be over 50 years old and must possess significance based on its own value, not on the value of the event or person[s] being memorialized."

Bulletin #15 also states that the property can not achieve significance with the event or person being memorialized and that the marker it not significant in and of itself. The marker must also be architecturally significant or retain symbolic value.

According to page 11 of National Register Bulletin #22:

" The National Register Criteria for evaluation encourage the listing of a property that has achieved significance within the last 50 years only if it is or exceptional importance or if it is a contributing part of a National Register eligible district."

Based on materials in the two National Register Bulletins, the memorials at the park can not be found eligible. They do not qualify under Criteria Consideration F and do not appear to meet any of the established criteria for evaluation of properties less than 50 years old. The memorials are not significant to the development of the Badrock Canyon/Hungry Horse area.

54. RESPONSE: In addition to 23 CFR 771.135(p) and the FHWA Technical Advisory T6640.8A, other guidance materials provided by the FHWA that interpret Section 4(f) requirements (including provisions regarding constructive use) were consulted extensively during the preparation of the Draft Section 4(f) Evaluation.

The Draft EIS/Section 4(f) Evaluation was subject to a legal review by the FHWA Region 8 Regional Counsel's Office and found to be sufficient.

See response to comment 23b presented previously for a discussion of constructive use.

- (4) NEPA's 10 tests for determination of significance @ 40 CFR 1508.27 should be systematically & honestly applied to achieve compliance, instead of the arbitrary chaos represented in this "snowjob" DEIS, a waste of taxpayers' money.
- (5) EIS preparers have ignored ESA definition of "Action Area" @ 50 CFR 402.2. The Final EIS should clearly define and portray the action area as stated in the regs.
- (6) Breach of Certification Acceptance contractual requirements for full compliance with "fundamental provisions of law in Title 23 with respect to the basic structure of the Federal-aid highway program", 23 CFR 640.105(d). Numerous substantial concerns have been raised throughout this EIS/4(f) process about existing breach of CA contract.
- (7) AASHTO "Green Book" Compliance Problems: (A - H)
- (7)(A) Five-lane continuous LTL is typical of urban (NOT rural) primary arterials. Four-lanes with LTL where needed @ access control sites is adequate for rural primary highways. The DEIS plan to extend urban 5-lane into the rural /lightly developed area such as Monte Vista flats and west entrance to Bad Rock is not warranted design procedure. Strip development is specifically opposed in this area (1987 Flathead County Master Plan, III-18), so why is the MDT advancing urban design in rural designated area ?
- (7)(B) Oppose Dangerous Recreational Intersection proposed by DEIS for a hill/curve area at the west entrance to Bad Rock Canyon. DEIS proposal for "Replacement Park" increases access on hill/curve, rather than restricting access as needed. The recreational intersections should be relocated completely away from the hill/curve closer and/or adjacent to House of Mystery. Proposal for major intersection on a hill/curve area violates federal highway design and safety standards. A major intersection at scenic west entrance to the river corridor is a significant visual obstruction as well.
- (7)(C) Capacity and Traffic Analyses for this DEIS failed to consider Grade in highway design as required for mountainous terrain. DEIS fails to reveal the overall geology of this entire project is grade -a 30 ft. elevation drop (from Columbia Heights down to Fishermans' Rock) then a 90 ft. elevation climb back up to Hungry Horse. At very minimum, the Bad Rock Canyon/Columbia Mountain section of the project corridor should be appropriately designated Mountainous Terrain, 50 mph speed design. This reduced speed design would generate mitigation.
55. **RESPONSE:** The potential impacts of the proposed action were evaluated for intensity and context to determine their significance according to 40 CFR 1508.27. The potential impacts of the proposed action met the "tests" identified in paragraphs (3), (7), (8), and (9) of 40 CFR 1508.27(b).
56. Text on page S-4 of the Draft EIS identifies the potential adverse impacts of the proposed action and indicates they were considered against the context and intensity criteria for significance.
56. **RESPONSE:** Please review the response to comment 48 presented previously.
57. **RESPONSE:** Certification Acceptance contractual requirements relate to Title 23 but not to the NEPA process.
58. **RESPONSE:** An undivided 64-foot wide four-lane road between Columbia Heights and Berne Road was initially considered before a four-lane road with a continuous median/left turn lane was selected as the preferred alternative for this section of the project. The primary reason for not choosing an undivided four-lane design was that transitions to and from road widening for left turn lanes at Monte Vista Drive and at the proposed replacement park area at Berne Road would consume nearly 1.3 of the 1.7 miles in this segment of the corridor.
- If left turn lanes were provided for westbound traffic at Monte Vista Drive and for traffic in both directions at the proposed replacement park/river access, two short areas of intervening undivided four-lane road (a 0.35 mile-long section between Columbia Heights and Monte Vista Drive and a 0.10 mile-long section between Monte Vista Drive and Berne Road) would exist in this part of the corridor. These brief and frequent transitions to and from areas with left turn lanes are undesirable from a design standpoint and may be confusing to drivers. The paved surface width and the area disturbed by construction would not vary substantially from that of the preferred design for this section of the corridor.
59. **RESPONSE:** Please review the response to comment 27a presented previously for a discussion of this concern.
60. **RESPONSE:** Please review the responses to comments 2 and 3 presented previously for a discussion of how grade was considered in the capacity and level of service analyses.

- (7)(D) Re: Coram-West Glacier construction. The Blankenship and Lake Five turnoffs require remedial Safety Improvement Project to implement LTL. These LTL were obviously warranted in the first place, however, MDH/Peccia failed to perform turning movement counts and failed to appropriately design the highway to accommodate significant residential community access in these locations.
- 61
61. RESPONSE: The Blankenship and Lake Five turnoffs are not within this project area.
- (7)(E) Re: Coram -West Glacier construction. The design of the KOA Campground curve is a violation of design principles for new construction on federal-aid primary highways. MDH/Peccia constructed a long dangerous curve that needs remedial Safety Improvement Project to implement 2-ft painted median and pullout for campground. Why wasn't this curve straightened out within available right-of-way in the first place?
- 62
62. RESPONSE: The section of US 2 referenced is not within this project area.
- (7)(F) The entire Coram -West Glacier segment needs analysis by a special design expert for additional improvements to correct the fact it was wrongly designed to AASHTO Interstate rather than primary standards.
See "As Constructs" for Coram-West Glacier, designed and perpetrated by MDH/Peccia, FHWA-MT-EIS-81-02-D.
- 63
63. RESPONSE: The section of US 2 referenced is not within this project area.
- (7)(G) Modernization 4R project is needed now on the Badrock Canyon project corridor. Shoulders and two paved/signed slow traffic pullouts are needed on the straightaway section between South Fork Bridge and Berne Park. A westbound climb lane is needed at mp 140.5-140.0 to achieve capacity relief where cue develops. At Monte Vista flats, consider possible pass lane, school bus pullout, and LTL as needed now to achieve reasonable safety.
- 64
64. RESPONSE: Your concerns for additional capacity and safety will be incorporated into the final design of the proposed action.
- (7)(H) Implement 50 mph reduced speed limit through Berne Memorial Park.
If MDH can justify a new wide 4-lane with speed limit of 45 mph on hill north of Martin City/US2, then speeds can be briefly reduced through Berne Memorial Park with appropriate MUTCD signage. Reduced speed is warranted for restricted areas and mountainous terrain such as N. slope Columbia Mtn.
- 65
65. RESPONSE: The operation of the new facility must be monitored before a determination can be made about adjusting the posted speed limit.

PART XII. - Petitions supporting

Protection of Historic Bad Rock Canyon,

preservation of Berne Memorial Park and

WSR values Approximately 800 petition signatures/100 pages
hereby entered into the official records for EIS/4(f)/WSR study
process.

Comment on FHWA-MT-EIS-92-02-D/4(f) prepared by:


Law. C.L.A., Certified Paralegal Administrative
Enclosures:

66

66. RESPONSE: The preparers of the EIS acknowledge the receipt of these petitions.

The following pages (VI-108 to VI-135) contain materials that attached to Sharon L. Willows 12/21/92 comment letter on the Draft EIS/Section 4(f) Evaluation. Most of these materials were previously submitted to MDT during scoping activities and the subsequent development of the Draft EIS/Section 4(f) Evaluation.

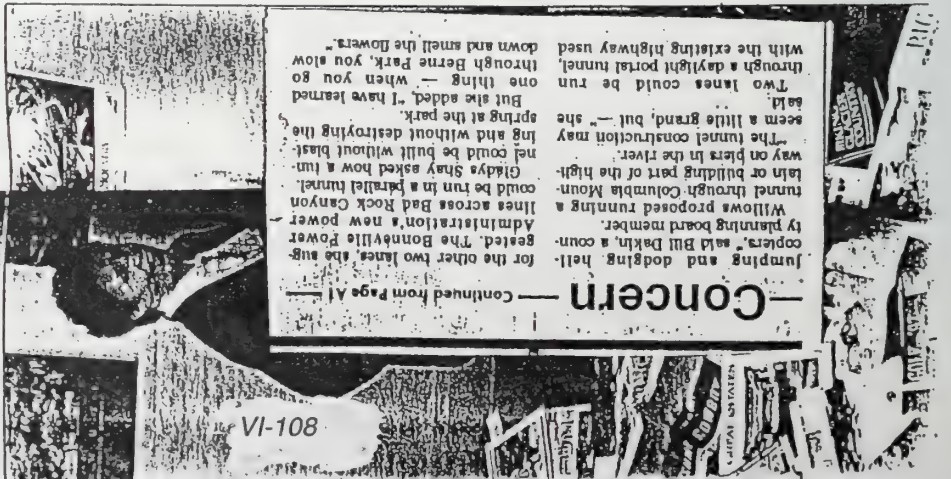
Concerns raised by these supplemental materials have generally been addressed in the responses to Ms. Willows 12/21/92 comments.

Winter Lake

WELL, MONTANA, FRIDAY, DECEMBER 11, 1992 50 CENTS

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ts pack em in



Loss of park stirs concern

By RICK HULL

The idea of "blowing up" Bernie Park didn't sit well with those attending Thursday's public hearing on plans for rebuilding U.S. 2 through Bad Rock Canyon.

About 70 people turned out for the evening public forum in Columbia Falls. It was billed as an informal session featuring one-on-one discussion with highway officials.

But most people gravitated to an accompanying formal hearing, at which speakers attacked the highway plan and each other. Sharon Willows, the final speaker, picked apart the project's environmental impact statement section by section. She accused the document's authors of shoddy work and said a previous project on another section of U.S. 2 in the Canyon had violated national safety standards.

Willows and her Coalition for Canyon Preservation fought a 10-year court battle against the earlier U.S. 2 project and succeeded in getting the four-lane design changed to a wide two-lane.

Mike Kreiter, a Coram resident, led off the testimony with a statement favoring the planned four-lane from Columbia Heights to Hungry Horse. His daughter had been in a car wreck on the highway; his son was hit at a school bus stop, he said. He had started a petition drive supporting the highway, but petitions had been stolen and he had been harassed with phone calls, he said.

"We are in for a battle with the same organization that delayed it before," Mike Kreiter said.

"This shows that we are in for a battle with the same organization that delayed it before," he said. Homer Steele of Columbia Heights said, "I'm all for making this highway as wide as they can, just as safe as they can, just as quick as they can."

But a number of speakers didn't like the idea of blasting away a cliff at the west entrance to Bad Rock Canyon and replacing Bernie Park with a recreation area near the House of Mystery. The cool, mossy stopping spot would be replaced with a hot, weedy site, they said.

"I know it's a traffic problem, because everyone's in a stinking hurry," said Meryl Johnson. "I don't know why everyone's in such a hurry — go back to L.A."

Tourist come to the Flathead for its scenery, she added. "They can go somewhere else to see destruction."

A request for a highway grant to zone the Canyon received favorable reviews.

"Those living in the Canyon are beginning to think we'll be looking out between bungee

See CONCERN on Page A2

Concern — Continued from Page A1 —

jumping and dodging hell-copiers," said Bill Dakin, a council member. The Bonneville Power Administration's new power lines across Bad Rock Canyon could be run in a parallel tunnel, Gladys Shay asked how a tunnel could be built without destroying the area and without blasting. But she added, "I have learned one thing — when you go through Bernie Park, you slow down and smell the flowers."

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

Sale work proceeds

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

— HUNGRY HORSE NEWS, Thursday, December 17, 1992

Opinion split on Highway 2 rebuild

Some concerned over Berne Park relocation

BY BECKY SHAY
Staff Writer

Opinion differed at the public hearing in Columbia Falls last Thursday on a proposal to rebuild Highway 2 to four lanes between Columbia Heights and Hungry Horse. But a strong undercurrent flowed through the crowd, as voiced by Kallispell businessman Wade Laird: "Nobody's arguing the road needs to be replaced," he said.

Nearly 70 people turned out to voice, and hear, opinions on the state Department of Transportation's plan to widen the highway and relocate Berne Park.

Residents' concerns varied, from Columbia Heights resident Homer Steele encouraging the road be punched through as "wide, safe and quickly as possible," to concerns over demolition of part of Berne Park.

"We need a road — that's fine — but, let's work with nature," said Jamey Willows, who, like a number of others, was opposed to destroying part of Berne Park and relocating it to a field next to the House of Mystery.

Under DOT's preferred plan, Berne Park would be relocated to a river access built in conjunction with the U.S. Forest Service. Realigning Highway 2 would require dynamiting the westernmost cliff in the Berne Park area. The springs at Berne Park would be left intact, with access modified by a one-lane road through the site. Some trees eagles use for perches between the river and the highway across from the park would also

"We need a road — that's fine — but let's work with nature."

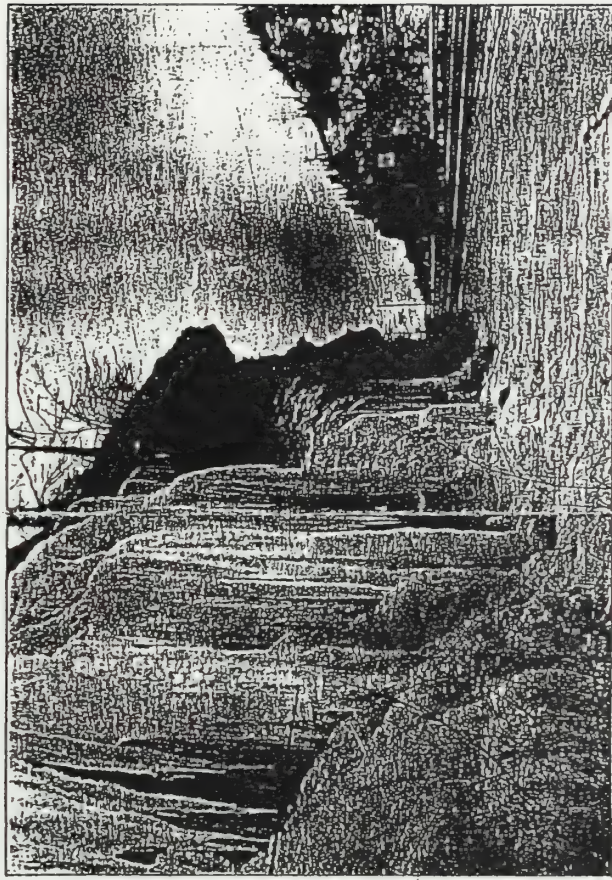
— Jamey Willows

be removed. The U.S. Fish and Wildlife Service has determined that removing the trees "would not jeopardize the continued existence of (eagles)," according to Dan Nordend, of Robert Peck and Associates of Helena, chief consultant on project's Environmental Impact Statement (EIS).

Sharon Willows, spokesperson for the Coalition for Canyon Preservation, said she wanted to "impress that there are alternative techniques to bring the four-lane through the Canyon and protect the resource." She said the "crux of the issue is for the state to keep abreast with state-of-the-art technology to preserve sites (such as Berne Park).

Willows suggested a half-mile-long tunnel to save cliffs marked for demolition under the EIS; or a bridge substructure that would skirt the cliffs and carry the roadway over the Flathead river, on piers.

Nordend said the road-widening project offers a chance to redesign the intersection of Highways 2 and 206,



Iceicles hang frozen in time on a rock cliff face in Berne Park along Highway 2. Many area residents are concerned over the state's plan to move the park near the House of Mystery to make room for a four-lane road.

giving preference to the volume of traffic that flows on Highway 2. He said the Columbia Heights truck weigh station would be removed due to "traffic conflicts" in

the area. The plan calls for construction of a new bridge just downstream from the current span across the South Fork. Nordend said some fill would

have to be installed in the Flathead River to allow the highway to shift west away from Berne Park. Public comment on the EIS and Prospect Avenue, Helena, Mont., proposed action will be accepted until Dec. 22. Send written comments to: Public Hearing Office, Montana Department of Transportation, 2701

These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

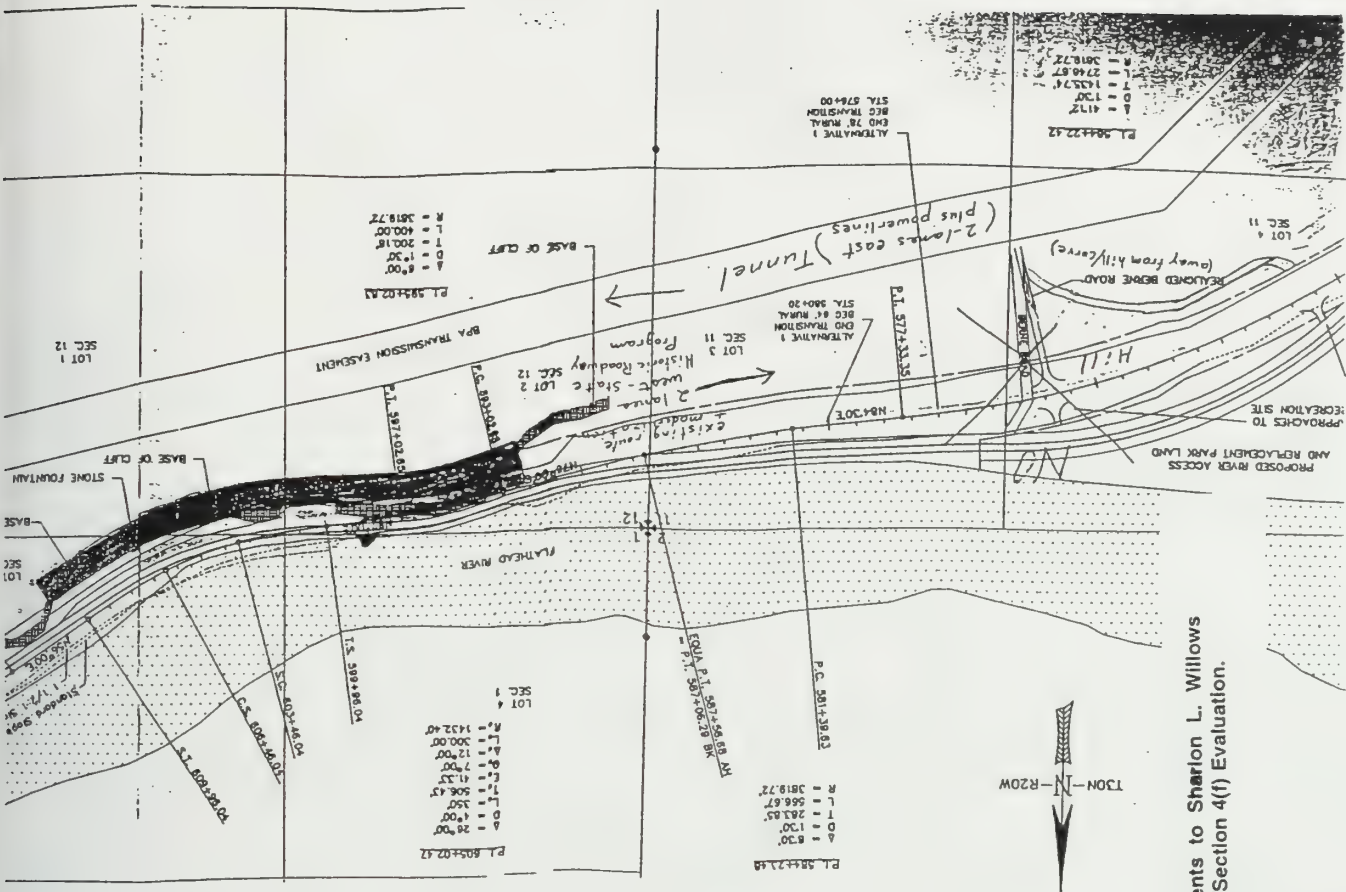
the daily Inter Lake

KALISPELL, MONTANA, THURSDAY, DECEMBER 26, 1991 50 CENTS

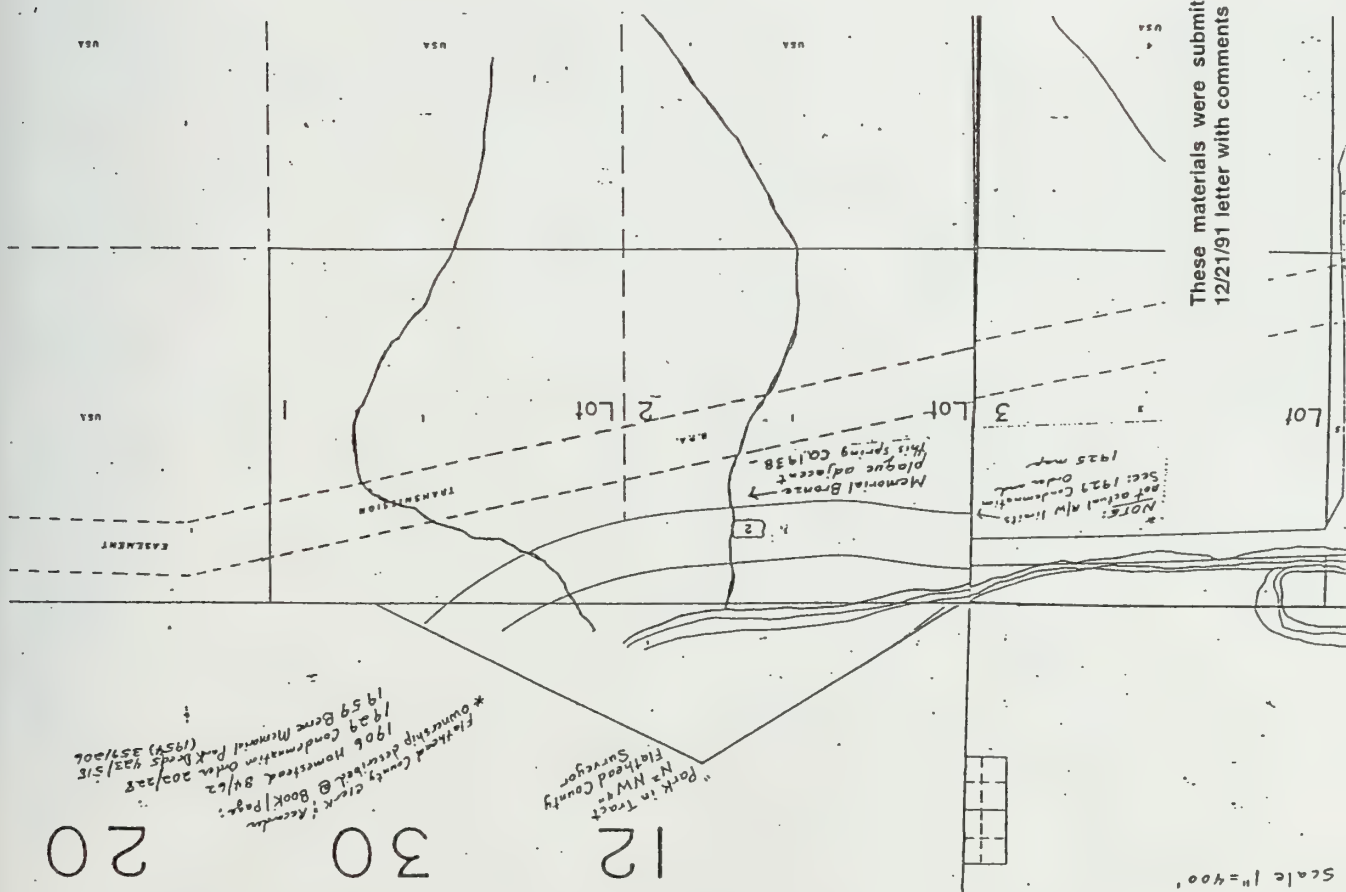


Christmas climb

Columbia Falls native Jim Emerson, who now lives in Helena, spent Christmas afternoon testing out some new ice-climbing gear near Berne Park in Bad Rock Canyon. (Inter Lake photo by Karen Nichols)



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12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

RANDOM WILDLIFE SIGHTINGS

River Corridor

Project F1-2(34)138/4(f)
Badrock Canyon

wooded cover with
relative absence of human
activity except hwy
and railroad routes

VI-112

N. end of
Swan Range

S. end of
Whitefish Range

Mother Black Bear
Killed by vehicle
approx 1984
Same was by
1978 black bear
female cub x

elk/deer (bear indicated)
o - dead
x - alive

X fall 84
large griz
sighted
white-tail deer
coyote X

BADROCK CANYON

GRIZZLY SIGHTING - BLACK BEARS
WILDLIFE VIEWING

To: HHRD, GLAC, MDFWP Biologists, MDH/MDT

By: Jack Dorloque, Box 266 Hungry Horse, MT 59919

Date/Time: 8/20/92 7:00 pm

Large adult male griz sighted grazing about 100 ft. NW of US 2 near the tree nursery North of Martin City. A tour bus stopped with tourists getting out to take pictures and starting to approach. Jack Dorloque warned them against it. Another tourist parked at the site along highway had seen the griz just cross over from the Martin City side of highway. Griz was heading in NW direction toward river, was about 600-700 lbs. estimated, and was in no hurry. Observation reported to 911 on Aug. 20; reported to CCP Research on Aug. 21, 1992. Later sighted in Clarence Purdy's yard. Also witnessed by Sandy Sheldon, Box 243, Hungry Horse, MT 59919. Sandy thought the bear acted nervous.

Re: Black bear sow and cub
By: Shelly Powell, Box 382, Martin City, MT 59926 387-5404

Date: 8/27/92 and 8/28/92

Shelly and her mom Jennifer had heard from campers there was a sow and cub hanging out along the South Fork river road, SE of the South Fork bridge and Hungry Horse. So they drove down on this dirt road on 8/27/92 about 5:00 pm. They saw the mom and her cub on the town side of the river along the gravel road as was reported. Then the next day, on 8/28/92, the same bears were sighted from US 2 South Fork bridge upstream about 250 ft. The cub was swimming back and forth across the river while mom rested on the south bank watching. About 5 cars stopped on the bridge to view, around noon.

Shelly Powell
Box 382
Martin City
387-5404

RE: Medium size Black Bear

date: 9/26/92 at 5:30 pm

By: Sharon L. Willows Box 422, Hungry Horse, MT 59919
387-5872

Saw a medium black bear this early evening on South Fork road that goes under the SF Bridge/US2. The bear was walking in the middle of the road heading northwest along the river. The bear was just around the bend as viewed from SF Bridge. I just backed up, back around the bend where I had come from. The bear was standing in the road, stopped to look at me about 200 yards away.

Welcome to: "Wilderness & industry... Columbia Falls: the Gateway to Glacier National Park."

Wilderness and industry rub elbows in the city of Columbia Falls.

Industrial core of the Flathead Valley, with its lumber mills and employee-owned Columbia Falls Aluminum Company providing scores of jobs, the city is also the gateway to the South Fork of the Flathead River, the Hungry Horse reservoir, and the Bob Marshall and Great Bear wilderness areas.

The city is also the gateway to the west entrance to Glacier National Park. Visitors enjoy a trip through spectacular Bad Rock Canyon, with the Flathead River a stones throw from the highway, between Columbia Falls and West Glacier.

Other tourism amenities in the area include the new Big Sky Waterslide, a go-cart track, easy fishing access to the Flathead River, and some of America's best big-game hunting in the nearby mountains.

For the winter recreationalist, Columbia Falls has excellent alpine skiing, snowmobiling, and cross-country skiing within a few miles.

According to statistics compiled

Veterans Home, with 150 beds, is adjacent to the city.

Rounding out the list of medical services available in Columbia Falls are six doctors, six dentists and an optometrist.

An extensive list of churches serves the spiritual needs of the community. Denominations include Roman Catholic, Episcopal, Assembly of God, Seventh-day Adventist, Pentecostal Church of God, Church of Christ, United Methodist, Fellowship Alliance, Polebridge Alliance, First Baptist, First Christian, Our Redeemer Lutheran, Our Redeemer of Latter-day Saints, Jehovah Witness, New Covenant Fellowship, Flathead Christian Fellowship, and Columbia Bible Church.

The community is served by a branch of the Flathead County library in Columbia Falls, has seven full-time police officers, and has a 30-member volunteer fire department.

Banks available include the First Federal Savings Bank and the First Citizens Bank, with the CFAC Employees Federal Credit

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

MISSOULIAN EDITORIAL

Eye-opening conference

Watchable Wildlife session shows refreshing new vision

Even if you didn't attend the National Watchable Wildlife Conference, which ended Saturday in Missoula, it's worth noting the event's significance. As the first conference of its kind, the three-day meeting signaled an important — and welcome — evolution in attitudes about wildlife.

Wildlife once was valued primarily as a source of food. In this century, hunters interested in food and sport have been the principal benefactors of most wildlife, especially game animals. We believe the growing "watchable wildlife" movement reflects a broadening of the public's interest in the wild kingdom.

Of course, there's nothing new about watching wild animals and birds, as anyone with a backyard bird feeder or who's ever visited Yellowstone National Park can attest. And stereotypes notwithstanding, most sportsmen have always spent far less time stalking and killing animals than they have observing and admiring them.

What is new is a growing awareness of the value of wildlife as a source of enrichment for the economy, as well as the soul.

Montana's wildlife, for example, adds immeasurably to the quality of life here. Hunters and fishermen may have an exceptional interest in the wildlife here, but almost everyone can appreciate the beauty and wildness of the wildlife with which we share this state.

Tourists also like to see elk, deer, mountain sheep, bears and other animals, as well as eagles,

waterfowl and song birds. They travel long distances for the chance to see wildlife they can't see in the country's more urban settings, and they bring their money and credit cards when they come. Although the interests of wildlife and commerce often are portrayed as mutually exclusive, more and more businesses are awakening to the fact that there's money to be made accommodating the public's desire to view wildlife. So long as wildlife viewing opportunities are developed sensibly, they can provide tremendous benefits to tourists and residents alike.

There may be a tendency for sportsmen to view wildlife-watchers as a threat or a source of competition. (That seemed to be the case, for instance, when the state Fish and Game Commission was presented with a proposal to transplant bighorn sheep to Mount Sentinel, a site perfect for wildlife viewing but with limited opportunities for hunting. The commission rejected the proposal.)

While there may be instances where wildlife viewing and hunting aren't compatible, for the most part the two activities complement each other. Through greater opportunities to see and learn about wildlife should come a greater public understanding of wildlife population dynamics and management, as well as a better understanding of the necessary and positive role played by hunters.

What's more, wildlife-watchers could be mobilized as a large source of political and financial support for habitat protection and other work needed to keep wildlife secure. Sportsmen have carried the bulk of those burdens through license fees, special taxes and citizen involvement; reinforcements should be welcome.

9-14-92

MEMORANDUM

TO: MDT Legal
FHWA
USFWS

Fr: Coalition for Canyon Preservation (CCP)

RE: Project F1-2(39) 138/4(F) Badrock Canyon's Biological Assessment

COMMENTS:

Habitat affected by the proposed action (Fig 4) is in error. Refer to the attached map showing Badrock Canyon's primary foraging and perching location has been omitted from Fig 4 and the BA's discussion of "Direct Effects" (p.4). The critical high-use perching sites between Mile Point 140.2-140.5 (approx) have been omitted from Section 7 consideration and consultation. Tree removal and Bald Eagle habitat use and behavior specific to this critical location has not yet been discussed.

The Wetland and Riparian Assessment is in error (Fig 2, plate2):

- (1) Eagle Habitat between MP 140.2-140.5 is "7" (Cottonwood and conifer habitat).
- (2) Berne Memorial Park is "7" (Cottonwood and conifer).

Therefore, these two critical sites have been omitted from the "total acres of riparian cottonwood and conifer habitat that exists between Berne Road and Hungry Horse" (Direct Effects, p.4).

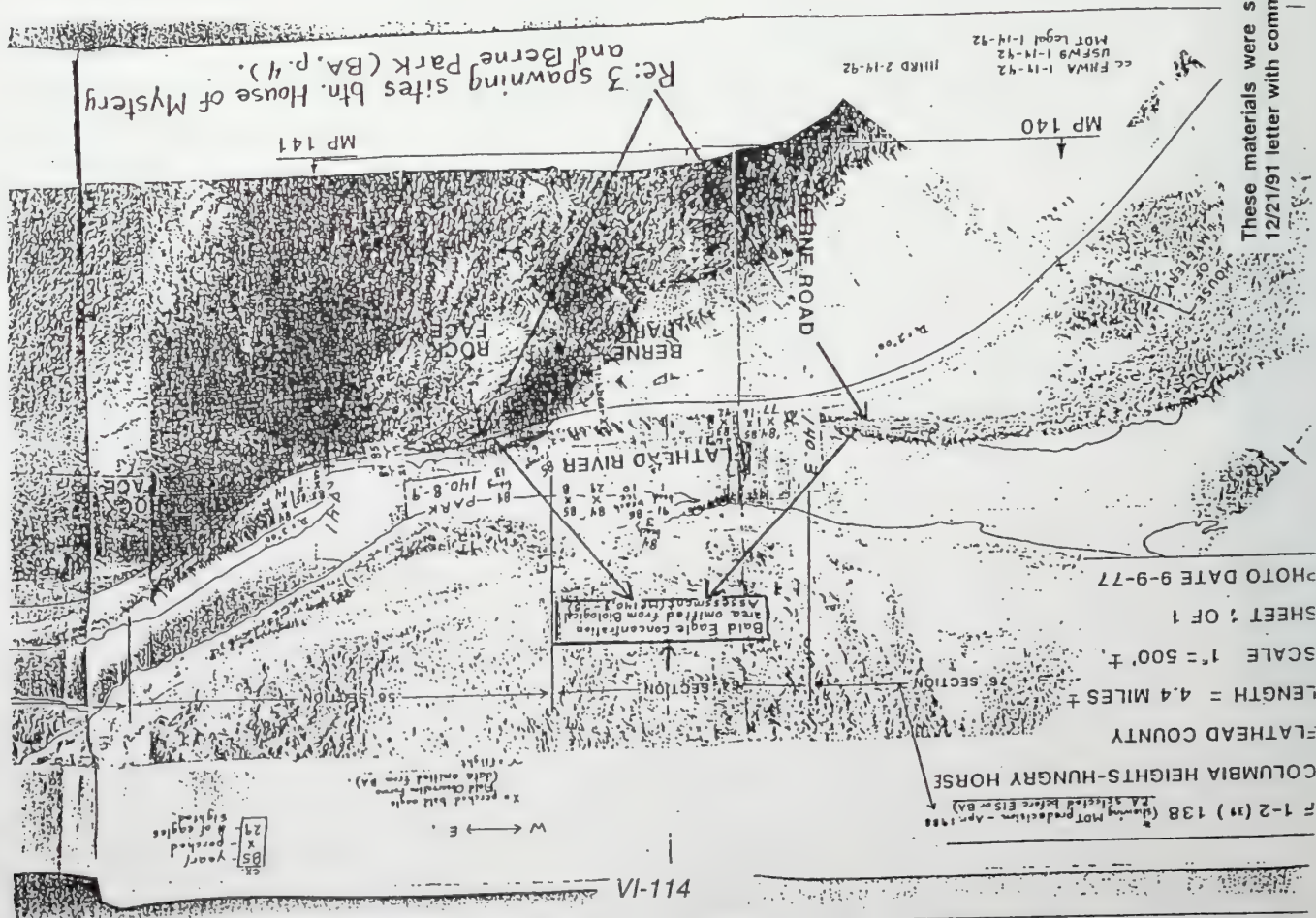
* "Total acres of riparian cottonwood and conifer habitat" is not specifically relevant unless usable mature perch sites are available. The proposed action appears to be affecting nearly 100% of the primary Bald Eagle use area between Mile Point 140.3 and MP 141.3.

* USFWS recommended "the final Assessment should present a brief summary of what is known or available...about present/recent winter use of Badrock Canyon by bald eagles; this summary should include quantitative data, as well as qualitative information" (Jan. 4,1991).

* On Jan. 25, 1990, the CCP entered 71 pages of Bald Eagle sightings and behavior descriptions for Badstock Canyon use into project records (Natural History Field Observation Forms - 1981, 83, 84, 85). MDT, Pecica and Associates, and OEA Research made no use whatsoever of this project specific information to discern "habitat use and behavior of listed species in the project area" (as recommended by USFWS Aug. 28, 1989). The Bald Eagle concentration area (MP 140.3-140.5) as documented by the Field Observations was instead entirely omitted from impact analysis and Section 7 required Biological Assessment.

These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

cc: HHRD.2-14-42



SUMMARY 1985 BALD EAGLE SIGHTINGS BADROCK CANYON

Perch locations:

W. of Berne Park, along US 2 in cottonwood/birch
Sighting Forms: 1a, 1b, 2a, 16a, 17a, 19a, 23a, 28b, 29b
N. side of river, across river from Berne Park, adjacent beach
Forms: 15b, 17b

Sta 609-613 (BA-Fig. 4) - Floodplain across hwy from Berne Park
Form: 21a

Flathead River Ranch - South Fork side of confluence.
Forms: 2b, 3b, 4a, 4b, 5a, 5b, 6a, 7b, 8b, 12a

Misc. Canyon sites - Forms: 18a, 21a, 24b

Foraging/fishing:

Berne Park area - Forms: 9b, 15a, 17b, 30a

Landed on ice/beach across river W. of Berne Park
Forms: 14a, 15b, 16b, 17b, 22b, 24a, 25a

Confluence - Form 21b

Flight sightings:

W. Badrock/Berne Park area - Forms:
9b, 12b, 13a, 15b, 16a, 16b, 17b, 18b, 19b, 22a, 25b, 26a, 29a, 30a

SF Bridge - 18a, 20a

Misc. Canyon sites - 9a, 28b

cc: 30 pgs of Natural History Field Observation Forms - 1985 sightings
OEA Research 1/25/90 (returned to CCP w/o use or application, 11/27/91)
USFWS Gary Wood 2/25/92 (call for EWS review, return to FHWA project records, Dale Paulson)

These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

SUMMARY 1984 BALD EAGLE SIGHTINGS BADROCK CANYON

Perch locations:

W. of Berne Park along US2 in cottonwood/birch (map 140.3-5)
forms # 5b, 13a, 13b, 14a, 15a, 15b, 16a, 16b, 17b, 18a, 19a,
19b, 20b, 21b, 22a, 23a, 23b, 24a, 24b, 25a, 25b, 27a, 27b.
* this area was eliminated from Biological Assessment

N. side of river, across river from B. Park, adjacent beach-

forms #
8a, 13b, 15a, 16a, 16b, 19a, 19b, 20b, 21b, 22a, 23a, 24b.

Sta 609-613 (BA-Fig. 4) - Floodplain across hwy from B. Park-
forms # 10a, 12b, 13a, 14a, 15a, 17a, 17b, 19a, 23a

Flathead River Ranch and/or South Fork side of confluence -
e. of confluence - forms # 5a, 8b, 11b, 15b, 19a,
20b, 21b, 22b, 23a, 23ab, 25b.
w. of confluence - forms # 17b, 19a, 20b, 22a, 23a.

Foraging/fishing:

Berne Park area

forms # 14b, 19a, 24a.

Landed on ice/beach across river W. of Berne Park
forms # 8a, 15b, 19b

Flight sightings:

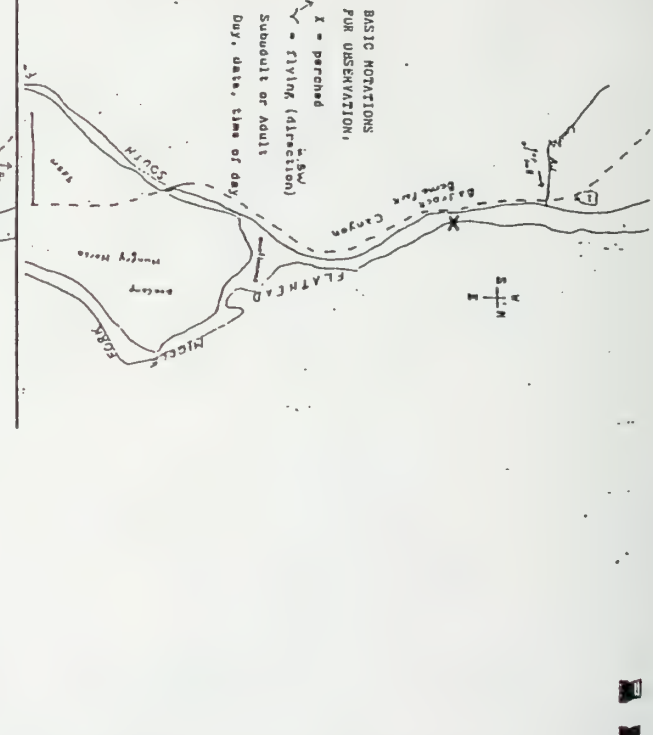
W. Badrock/Berne Park area-
forms # 3a, 7a, 11a, 13b, 14b, 15b, 16a, 17a, 21a, 24a, 26b, 27b.

South Fork River/Bridge-
forms # 4a, 6ab, 7b, 9a, 9b, 11b, 12a, 18b, 24a.

cc: 27 pages of Natural History Observation Forms with maps - 1984 sightings
OEA Research, 1/25/90 (returned to CCP w/o use or application, 11/27/91)
USFWS, 2/24/92
*Note: After USFWS review, return to FHWA project records, Dale Paulson.

JUN 25 1991
 ROBERT PICCOLI & ASSOCIATES
 MAY 7, 1991
 U. S. Fish and Wildlife Service
 Endangered Species Biologist
 Box 10023
 Helena, MT 59626
 Dear Mr. Hartwood:
 Our concern about the potential for bald eagle habitat loss in the Badrock Canyon area (Highway 2 south of Hungry Horse Dam) was first recorded in 1981 (see attached letter).

Studies of bald eagle migration and habitat use during the past 15 years have clearly documented the use of the Flathead River, including Badrock Canyon, as a major flyway and foraging area for eagles (Young 1983, McCalland P.T. - in prep.). On 4 December 1985, we counted 41 eagles between the House of Mystery and Hungry Horse Reservoir. At least 7 bald eagle roosts have been identified on the east side of Columbia Mountain. Many of the eagles from these roosts use the river corridor through Badrock Canyon) continuing roost use was documented after the kokanee collapse. Although the recent collapse of the kokanee salmon population in Flathead Lake has resulted in fewer eagles foraging in the Badrock Canyon area, eagles continue to perch in the cottonwoods and spruce vegetation strip across as screening which allows eagles and other wildlife foraging opportunities on waterfowl and shoreland vegetation. Much of the screening is lacking from human activity. The increased distance at which eagles fly from human activity further removal of Badrock Canyon has been removed over the years. When such screening is lacking as well documented (e.g., Belamater 1987). Further removal of vegetation along the river in the western portion of Badrock Canyon has been removed over the years. Bald eagles continue to use this area as a migration corridor even though the food base has diminished (see paragraph at al. 1991). This persistent flyway use will continue to make possible a rapid response to any future (unpredictable) increase in prey base (e.g., lake whitefish). Elimination of remaining perch and screening vegetation would render the habitat unsuitable regardless of prey base improvement.



OBSERVATION

big adult Bald Eagle

Location: across the river from Johnson's Rock and across the river from Johnson's Rock and

Date (Month, Day, Year): 1-30-91

Time (a.m., p.m.): 10:00 a.m.

Weather: overcast

Description, Behavior, Number, Sketch, Map, Etc.

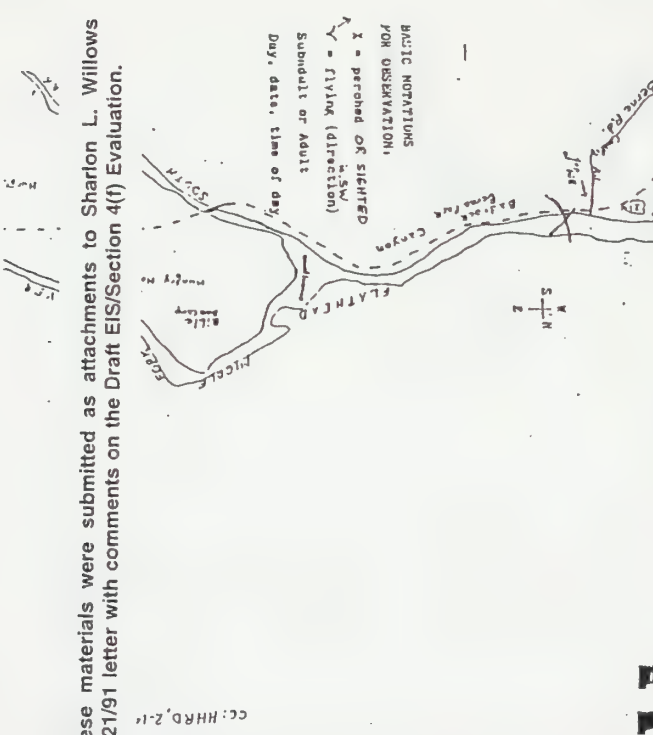
Observed by: *Michael Barker*

Address: 3045 J.R.R. Whitefish, MT 59937

NATURAL HISTORY FIELD OBSERVATION

JUN 25 1991
 ROBERT PICCOLI & ASSOCIATES
 MAY 7, 1991
 U. S. Fish and Wildlife Service
 Endangered Species Biologist
 Box 10023
 Helena, MT 59626
 Dear Mr. Hartwood:
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OBSERVATION

Black Bear

Location: across the river from Johnson's Rock and across the river from Johnson's Rock and

Date (Month, Day, Year): 1-30-91

Time (a.m., p.m.): 10:00 a.m.

Weather: overcast

Description, Behavior, Number, Sketch, Map, Etc.

Observed by: *Michael Barker*

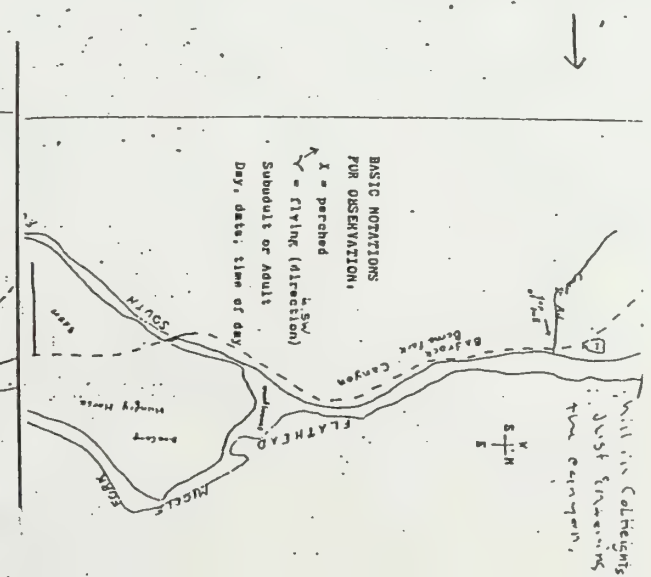
Address: 3045 J.R.R. Whitefish, MT 59937

NATURAL HISTORY FIELD OBSERVATION

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

CC: HHRD, 2-1

Pat McCalland
 Wildlife Biology Graduate Student, University of Montana
 D. Riley McCalland
 Professor, University of Montana
 Sincerely,
 Pat McCalland



Black Bear

Location: East of Mt. Nelson - down to Shoshone Fork on hill

Date (Month, Day, Year): July 91

Time (a.m., p.m.): 4:00 p.m.

Weather: good

Description, Behavior, Number, Sketch, Map, Etc.: fairly big Black Bear, front paws hanging on guard rail, went by about 5 m. from road. Bear got spooked as I drove up to it & stream of 6.

Observed by: Tim Cossette

Address: Box 514, Hungry Horse, MT 59919

Subadult Grizzly

Location: Columbia Mtn. Trail

Date (Month, Day, Year): 6-20-89

Time (a.m., p.m.): 1 pm

Weather: overcast

Description, Behavior, Number, Sketch, Map, Etc.: saw bear seat on road on mountain day but don't know name. Relatively certain it was grizzly but I'm not sure. Running down the mtn. about 20 ft. in front of me. (A) Approx. 1 mi. from Hungry Horse I killed 2x/wh. See Map Above.

Observed by: Sharon L. Williams

Address: Box 522, Hungry Horse, MT 59919

Subadult Grizzly

Location: Columbia Mtn. Trail

Date (Month, Day, Year): 6-20-89

Time (a.m., p.m.): 1 pm

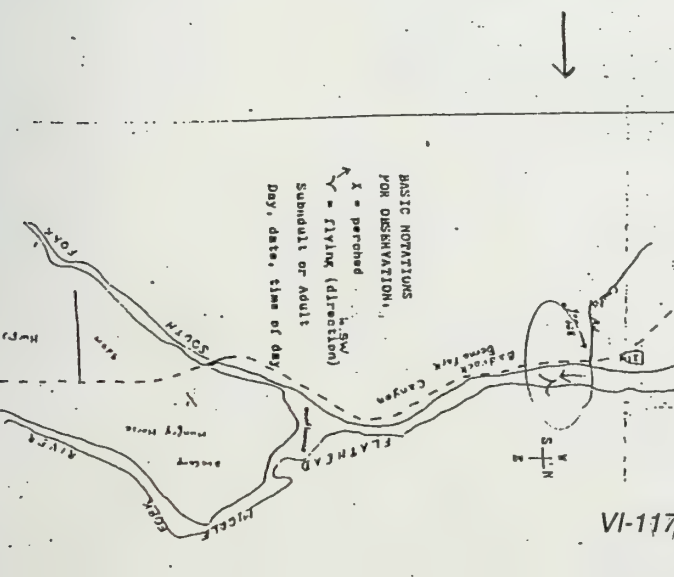
Weather: overcast

Description, Behavior, Number, Sketch, Map, Etc.: saw bear seat on road on mountain day but don't know name. Relatively certain it was grizzly but I'm not sure. Running down the mtn. about 20 ft. in front of me. (A) Approx. 1 mi. from Hungry Horse I killed 2x/wh. See Map Above.

Observed by: Sharon L. Williams

Address: Box 522, Hungry Horse, MT 59919

These materials were submitted as attachments to Sharon L. Williams 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



Bald Eagle

Location: Canyon - Lake Falls - MT

Date (Month, Day, Year): 10-2-91

Time (a.m., p.m.): 4:30

Weather: clear - warm

Description, Behavior, Number, Sketch, Map, Etc.: just flying low over the water. (usum - Thelie fisher)

Observed by: Tim Cossette

Address: Box 514, Hungry Horse, MT 59919

Subadult Black Bear

Location: Columbia Mtn. Trail

Date (Month, Day, Year): June 1991

Time (a.m., p.m.): 2:30 pm

Weather: sunny

Description, Behavior, Number, Sketch, Map, Etc.: Journal of me killing. The bear was looking at me with curiosity. Continued down trail. NOTE: loud roaring at base of mt. mtn. trail that they have seen. (A) Approx. 1 mi. from Hungry Horse I killed 2x/wh. See Map Above.

Observed by: Sharon L. Williams

Address: Box 522, Hungry Horse, MT 59919

Subadult Black Bear

Location: Columbia Mtn. Trail

Date (Month, Day, Year): June 1991

Time (a.m., p.m.): 2:30 pm

Weather: sunny

Description, Behavior, Number, Sketch, Map, Etc.: Journal of me killing. The bear was looking at me with curiosity. Continued down trail. NOTE: loud roaring at base of mt. mtn. trail that they have seen. (A) Approx. 1 mi. from Hungry Horse I killed 2x/wh. See Map Above.

Observed by: Sharon L. Williams

Address: Box 522, Hungry Horse, MT 59919

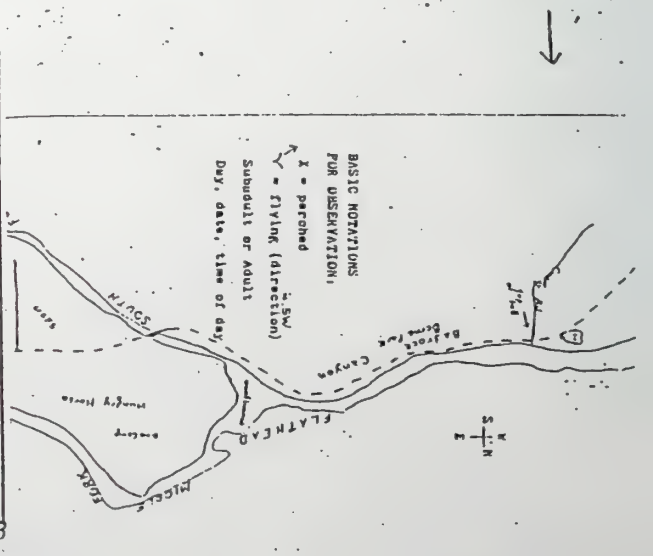
OBSERVATION
 9400
 Location: Flying low over SF bridge/river
 Date (Month, Day, Year): 12-30-91
 Time (a.m., p.m.): 11:30 a.m.
 Weather: cloudy
 Description, Behavior, Number, Sketch, Map, Etc.: above

Observed by: Sharon Wilcox
 Address: Hungry Horse Nat. Forest, MT 59919
 BT ACCURATE - DO NOT GROSS

OBSERVATION
 9400
 Location: Swimming the Middlefork N of Coram
 Date (Month, Day, Year): Spring 1982
 Time (a.m., p.m.):
 Weather:
 Description, Behavior, Number, Sketch, Map, Etc.: heading toward Glacier/teakettle to other side of river.

Observed by: George Milk
 Address: Hungry Horse Nat. Forest, Col. Falls, 59912
 To S. Wilcox

BASIC NOTATIONS FOR OBSERVATION:
 X = perched
 Y = flying (direction)
 Subadult or Adult
 Day, date, time of day



VI-118

These materials were submitted as attachments to Sharon L. Wilcox 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

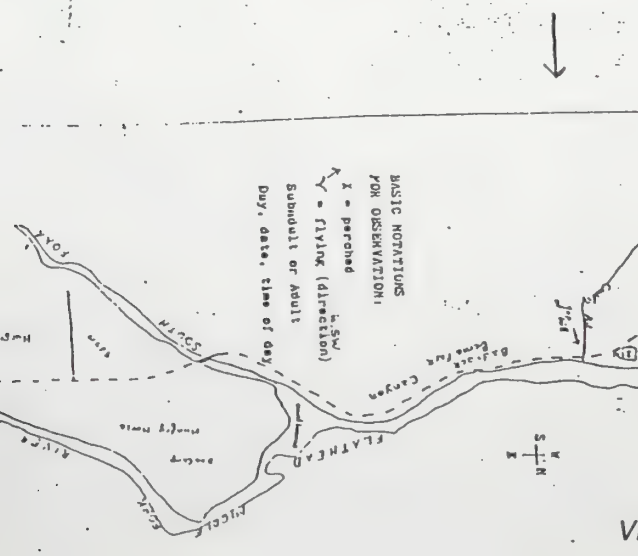
OBSERVATION
 9400
 Location: Cougar & Bald Bear above X
 Date (Month, Day, Year): 9-22-88
 Time (a.m., p.m.): AM
 Weather: overcast
 Description, Behavior, Number, Sketch, Map, Etc.: animals crossing highway

Observed by: [Signature]
 Address: Box 1657, Willow, MT 59937
 BT ACCURATE - DO NOT GROSS

OBSERVATION
 9400
 Location: Bald Eagle adult, Lot 12, Wagon, 14th Vill
 Date (Month, Day, Year): 12-30-91
 Time (a.m., p.m.): 11:30 a.m.
 Weather: overcast
 Description, Behavior, Number, Sketch, Map, Etc.: adult Bald eagle flying low over SF bridge NW of Hungry Horse.

Observed by: Judy Coram
 Address: Hungry Horse Nat. Forest, Col. Falls, 59912
 To S. Wilcox

BASIC NOTATIONS FOR OBSERVATION:
 X = perched
 Y = flying (direction)
 Subadult or Adult
 Day, date, time of day



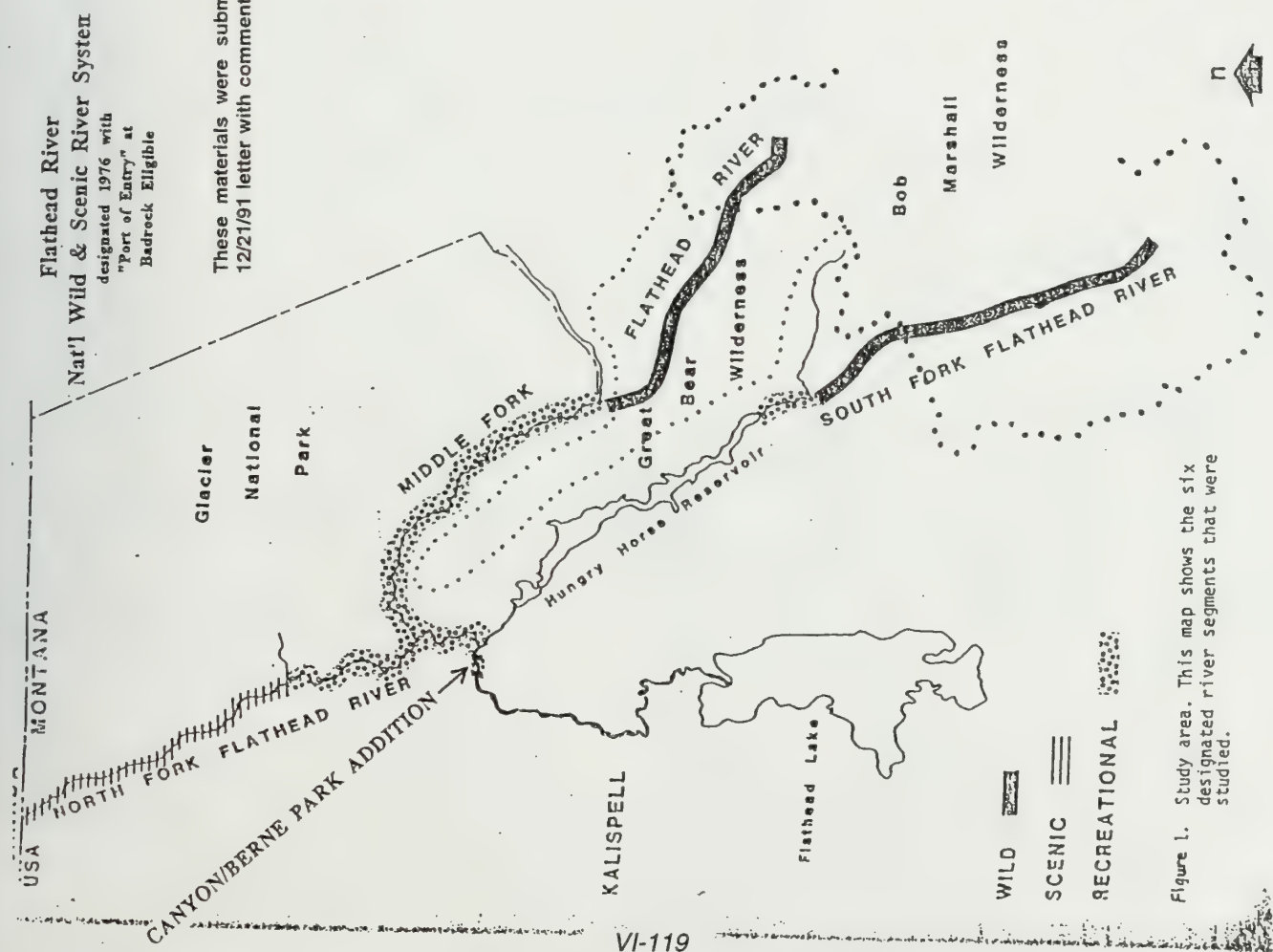
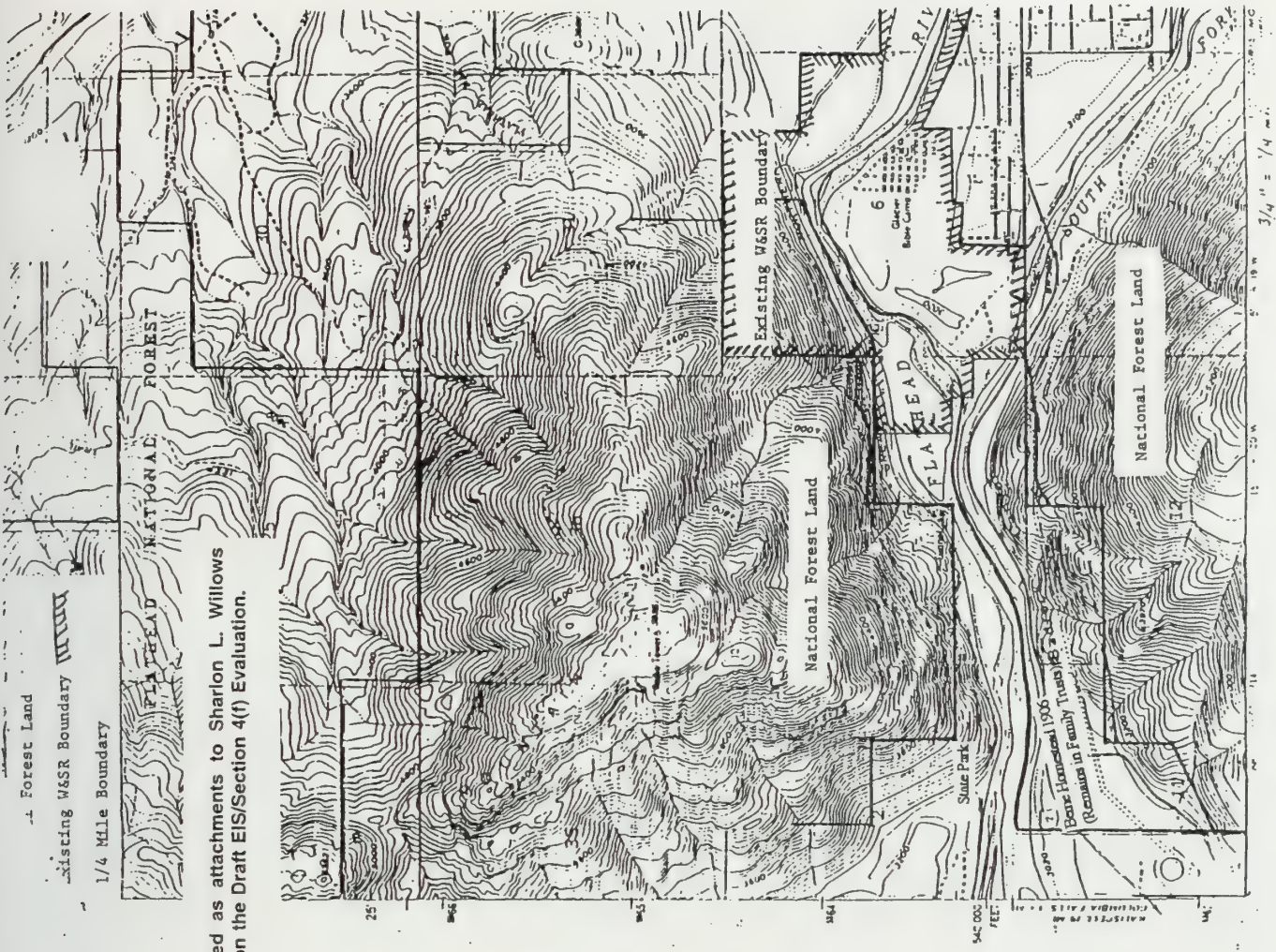
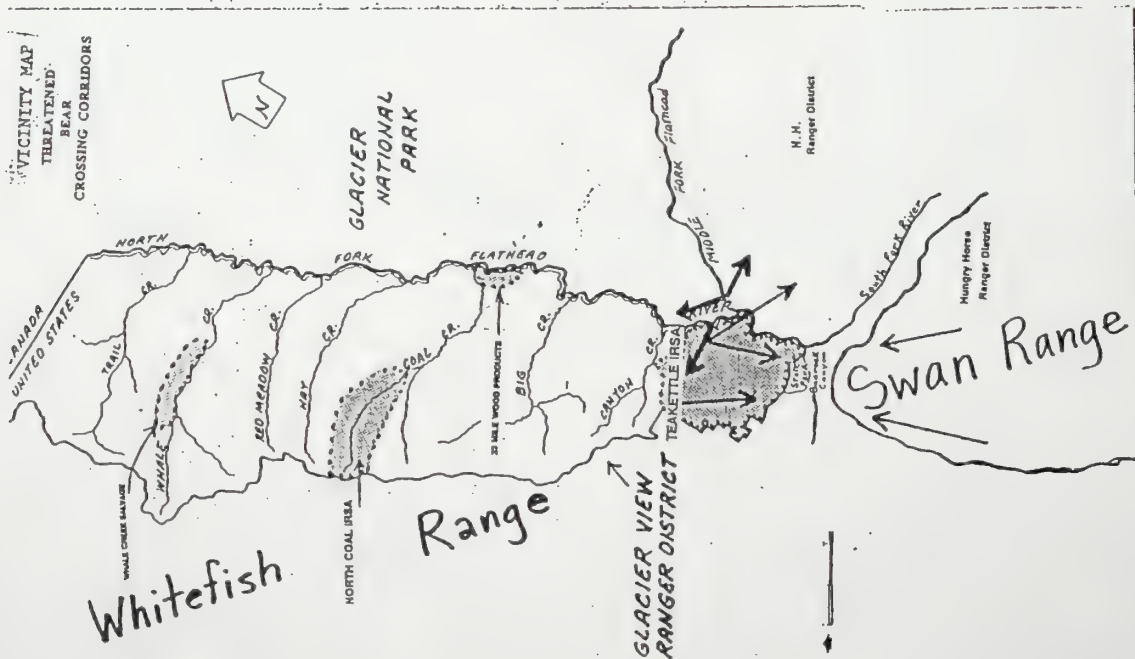


Figure 1. Study area. This map shows the six designated river segments that were studied.



These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

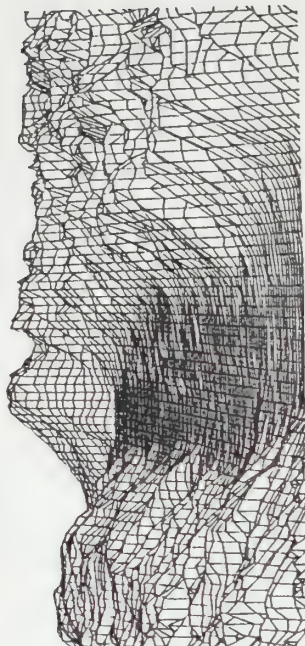
Habitat Fragmentation

Habitat fragmentation is just what it sounds like: home turf divided into separate pieces. It has been one of the main causes of population decline and habitat loss for the grizzly in North America, as well as for all of the world's eight bear species. In the lower 48 states, the grizzly now exists in 5 or 7 isolated areas. Now we see increasing habitat fragmentation inside the existing recovery zones.

Grizzly managers need to understand how human activities contribute to habitat fragmentation, and how future management methods might limit further fragmentation. IGBC agencies are beginning to use computer-based geographic information systems (GIS), the techniques of landscape ecology, and spatial analysis to display and analyze habitat fragmentation.

The USFWS is heading up pilot studies in three areas of the Northern Continental Divide Ecosystem (NCDE) - Swan Valley, and the North Fork and Middle Fork of the Flathead River, all in Montana. The lands involved are a patchwork of public and private ownership, so the program is a cooperative effort between: USFWS; USDA-Forest Service; National Park Service; Montana Department of Fish, Wildlife and Parks; Montana Department of State Lands; Plum Creek Timber Company; the Confederated Salish and Kootenai Tribes; and the County Commissions of Missoula, Lake and Flathead Counties.

The program will develop methods to display and analyze land management actions (e.g., trail/road use, home development, fencing, logging) that contribute to habitat fragmentation. Hopefully, these analysis techniques will be applied to all areas within recovery zones where fragmentation can be a factor impacting grizzly bear habitat.



Geographic Information Systems (GIS) map of upper Swan Valley

Linkage Zones

The revision of the grizzly bear recovery plan outlines a process to evaluate possible "linkage zones" or areas between the existing ecosystems. This five-year evaluation will require the analysis of information on all present and past land management actions as well as ownership, topography, and other factors that might affect the ability of bears to move through such areas. GIS and spatial analysis techniques will play a large role in the evaluation.

International Cooperation

Canada

Grizzly recovery continues to be dependent on close cooperation with Canadian authorities, particularly in the four ecosystems where the border is shared. Cooperative efforts are underway in the NCDE, the Cabinet/Yaak, the Selkirk and the North Cascades.

Cooperative management plans are being developed for each of the four ecosystems that cross the U.S.-Canadian border. British Columbia authorities continue to be full participants in all areas of research and management through their IGBC membership.

Commonwealth of Independent States (formerly USSR)

The IGBC and Russian representatives have signed an agreement to cooperate on projects beneficial to brown bears. Our Russian neighbors share many of the same challenges in brown bear management, including the resolution of human-bear conflicts. Three activities that may occur in coming years: a detailed report on human-brown bear conflicts in Russia; Russian testing of "scaring off" methods to prevent these conflicts; and field tests of Russian "laikas" (universal hunting dogs) in Wyoming as a tool to prevent encounters between humans and grizzly bears.

The IGBC invited a group of four Russian scientists to visit grizzly bear recovery zones in the U.S. in August 1991. Our visitors gained first-hand knowledge about grizzly conservation. Together Russian, American and Canadian biologists found that we have a lot in common and much to gain from joint efforts.

HHRD 2-14-92

October 11, 1989

Peccia & Associates
P.O. Box 5653
Helena, Montana 59604

These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

Dear People:

We are writing to express our concerns about the proposed
highway construction in the Badrock canyon area of U.S. 2.

Three weeks ago we travelled U.S. 2 from Browning to Kalispell.
Given the results of the new construction on this section of
U.S. 2 during the past 4 years, we definitely see a need for
a comprehensive cost benefit analysis for any further construction
in this area. As Montana natives, it is difficult for us to under-
stand how the sort of overbuilding that has already gone on can
be justified. Somewhere, sometime, SOMEONE has to say WHOA.

Because my wife formerly taught a course in Native American
Studies in the Kalispell School system, we are quite familiar with
the historical character of the Burne Park area. We are not the
only people we know who can still recall stopping for a drink of
water at Burne Park with their grandparents on their first visit
to Glacier. It is our understanding that the highway department
planners want to "relocate" Burne Park, carry out extensive blasting
in Badrock Canyon, and build another section of 4 lane highway.
Is this anyway to treat a known historical site? But what can the
average citizen expect from a highway department that proposes to
cut down the famous Medicine Tree south of Conner on Highway
93? Specifically, what other alternatives were considered?

Because we've travelled U.S. 2 from Kalispell to Browning hundreds--
maybe more than a thousand--times, we know wildlife use the Badrock
Canyon area as a crossing quite heavily. Someone we know saw a
Grizzly crossing there in August. We've often seen Bald Eagles
and Osprey feeding and perching in the area. Again, we cannot help
but ask, IS THIS ANY PLACE FOR A 4 LANE HIGHWAY? Common sense
tells you its not--unless your goal is to wipe out as many critters
as possible.

From what we saw three weeks ago, its going to take more than a
generation for the scars and ugliness created by the new construct-
ion east of Badrock Canyon to heal. We are particularly turned
off by all the exposed powerlines. Badrock Canyon WITH THE TREES
along the river is a spectacular sight in the fall. Did the
highway department think about this when they decided on a four lane

Sincerely,

Bill Miller
Helen Bibler
Box 217
Conner 51927

Jim Parker
Jim Parker



*This cub Killed
by game warden
in Badrock
Canyon. Caused
a lot of fracas
from school kids
and news coverage.*

Unique p every w

You can enjoy these beautiful pictures and much more
in every issue with a subscription to the

Hungry Horse News

* *Note: Approx. 5-8 yrs.
ago mother black bear
Killed, hit by car, on
U.S. 2 between Berne
Park and SF Bridge.
Game warden Killed cub.
A lot of HHN coverage.*



P.O. Box 189
Columbia Falls, MT 59912
Phone: 892-2151

cc DEA 1-25-9.

These materials were submitted as attachments to Sharlon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

Montana's Centennial Sites



Historic Name: <u>Badrock Canyon public drinking fountain</u>	
Common Name: <u>same</u>	
Date of Construction (note date of each building, if there is more than one at the site): _____	
fountain constructed 1949 (see attached Memo from State Hwy Commission)	
Name of Builder: <u>Lions Club</u>	
Original Use: <u>public drinking fountain</u>	
Present Use: <u>same</u>	
Location:	
Township: <u>12</u>	Range: <u>30</u> 1/4 Section: <u>20NW</u>
Address: <u>Badrock Canyon, U.S. 2 roadside</u>	
<u>Flathead County</u>	
Is access to the site restricted? ☐ Yes ☒ No	
Ownership: Name: <u>Lions International Club</u>	
Address: <u>Box 851, Kalispell, MT 59901</u>	

Historical Information: Please describe person, important events, and historical patterns associated with the building, site, and surrounding area. Was the choice of the location for this historic property important? Did the early settlers make significant contributions to state or local history?

(Re: Sec. 106 and Sec. 4(f) Evaluations/Project F1-2(39)Badrock Canyon/Berne Memorial Park; National Register Bulletin No. 12-Guidelines for Evaluating and Nominating Properties that have achieved significance within the last 50 years.

The numerous memorials to prominent Montana Pioneers located at Berne Park area are collectively significant and of exceptional importance. The three (3) memorials (park, fountain, bronze plaque on mountainside) are a significant local historic resource and scenic treasure "that by appearance and association with persons or events provide communities with sense of past and place".

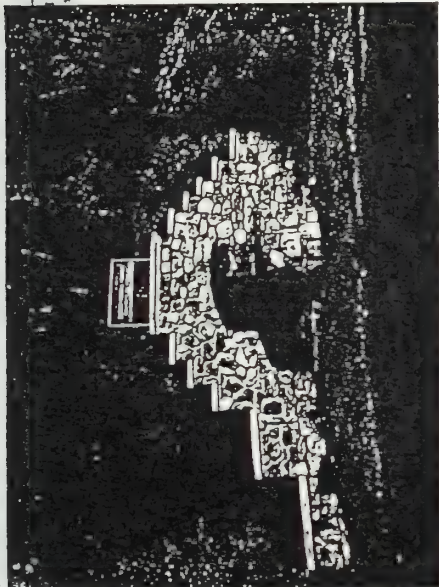
Attached news articles (1954-1989) show the community has had an unusually strong associative attachment with the Memorial(s) site, also a prehistoric geographical landmark and/or gateway to the mountain passes/American Indian travel route.

Nearly 42 years old, the masonry Lions Memorial Fountain possesses the quality of historicity before the passage of 50 years. The choice of the Berne Park area to locate the fountain (and the other memorials) was locally significant. This location is an historic watering and roadside camp. (NOTE: The Memorial Fountain was dedicated to Lion Don Sheppard of Kalispell by Lions of Kalispell, Whitefish, and Marlin City-see attachments.)

Physical Description

Appearance, noting any additions, alterations, and changes since.

The public drinking fountain has stepped side walls 20 in. wide. The fountain is 6 ft. wide @ center of fountain x 28 ft long. It is located outside of the staked right-of-way. In 1988 the Lions Club repaired the masonry from damages incurred to the four (4) left steps (they appear newer on the photo). The fountain is constructed of native rock



The fountain is dedicated to Lion Don Sheppard, a prominent Lion in this area in the 1920-30's. The Lions wanted the fountain located in the location of the springs because it was a "natural stop" on the developing road for visitors to Glacier Park (re: Lion historian J. Ray Myers, Kal.).

This form was prepared by:

Name: Sharlon L. Willows, GLA, Research Coordinator

Address: PROTECT GLACIER

Organization: CANYON COALITION, POB 422

Telephone Number: 387-5872

Date: September 1990



Instructions: The Montana Historical Society, State Historic Preservation Office, seeks information on all homes, farms, ranches, mines, businesses, schools—all surviving buildings that were constructed in Montana between 1864 and 1899. During Montana's Centennial, we plan to develop a list of those properties and summary information about them to give us a better look at "Where Statehood Began." We also plan a Centennial Sites Day during the 1989 legislative session to recognize those of you who have cared for our centennial buildings and provided information about them.

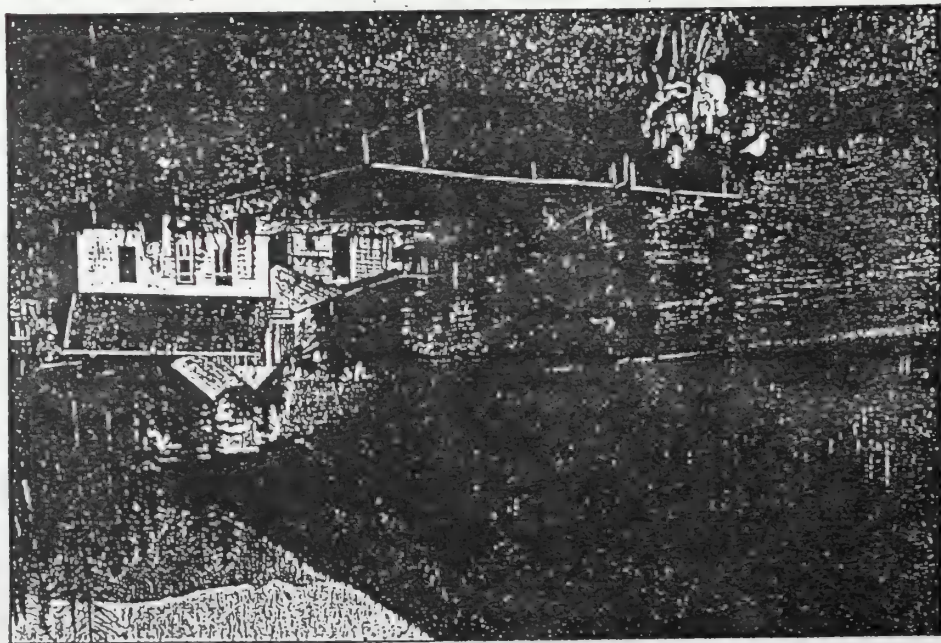
We invite you to fill out this form about the 100-year-old site or building(s) that you know, providing as much historical information as you can. In addition to the form, please send in the following:

- at least one current photograph and a copy of an historical photograph if you have one, preferably copies that we may keep and use.
- sketch maps of the site or area that show groups of early buildings, roads, rivers, land features, etc.
- copies of any other related historical information that will help us understand the property, such as newspaper articles, biographical sketches, obituaries of the people associated with the property, advertisements, etc.

Please CALL if you have any questions (444-7715). The deadline for Centennial site submissions is October 1, 1990. Send your completed site forms to: Marcella Sherry, State Historic Preservation Officer, 225 North Roberts, Helena, MT 59620.

Thanks very much for your interest and research.

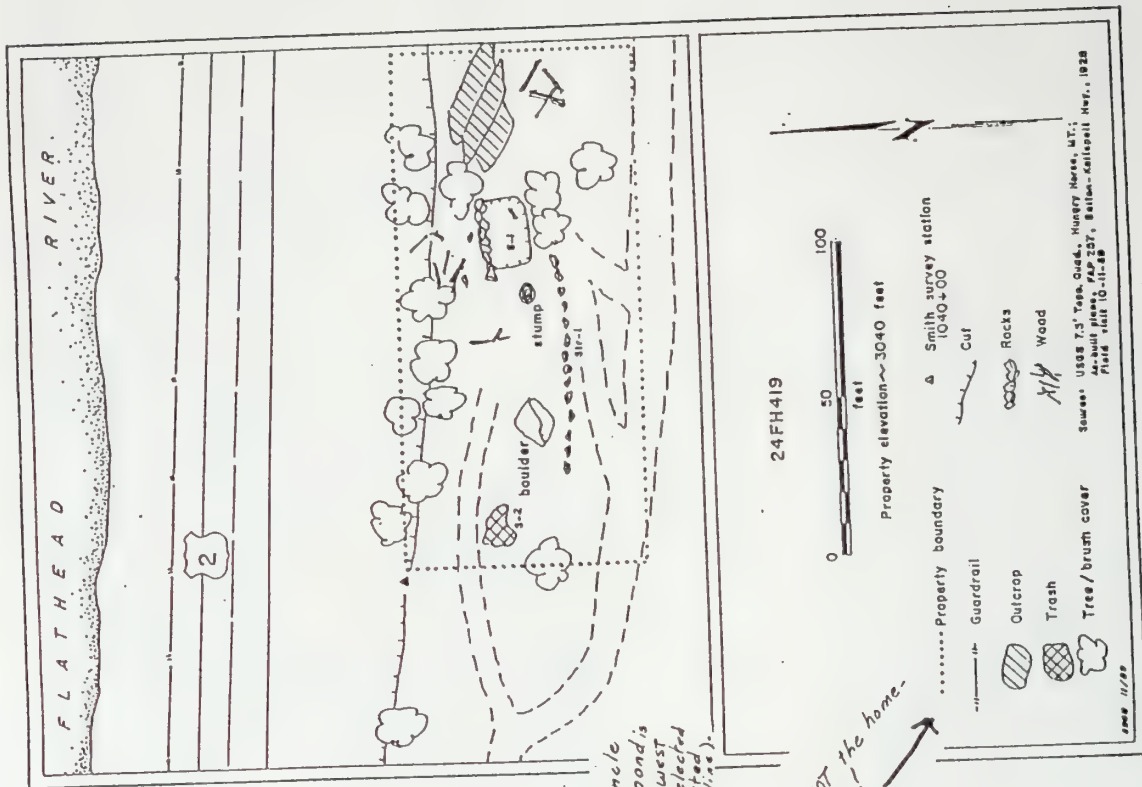
Note: Site retains integrity of location and association.



Canyon homestead

This picture of Billy Berne's homestead in Bad Rock Canyon was taken before the railroad or highway were built through the canyon. Berne later donated land for the park which is named after him.

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



NOTE: Uncle Billie's pond is located west of this selected site (dotted line).

This is NOT the homestead boundary!
ERROR

Figure 4. Map of property 24FH419.

BADROCK CANYON BIBLIOGRAPHY

Preliminary Literature Search by CCP
(copies of most pertinent pages sent to MDOH & SHPO)

1. #70-97513- Flathead and Kootenai, MW Historical Series IX, Olga Weydemeyer Johnson, Arthur H. Clark Publishing Co., 1969 (copies of pgs 56, 58, 196-7, 380, and map attached).

2. - Historical Information of the Upper Flathead Country, Edgar W. Trippett, Trippett Publishers, KellsPELL, MT 1971: Finan McDonald-p.11,15; Marlass Pass-p.11,13; Berne Brothers-p.15,19; travel corridor/Canyon tripline-p.42; Col. Mtn. Falls-43; hunting/wildlife-p. 15-19; Chief Baptiste-p.11 (Killed at Hungry Horse Dam site); copies of cited pages are attached.
3. # 76-2988- Man in Glacier, C.W. Buchholtz, Glacier Nat'l History Assoc. in Cooperation with GLAC, 1976; Indian travel route map, pgs 3-7, 21-22. (to MDH Consultant Peccia-5/14/90;SHPO-7/10/90).
4. # 85-70523- Place Names of Glacier/Waterton National Parks, Jack Holterman, 1985, Glac. Natural History Association: pgs. 5,17,50-51,56-57,63,121 (to MDH Consultant Peccia, 4/13/90; SHPO-7/10/90).
5. # 80-53493-Kalispell and the Upper Flathead Valley, Henry Elwood, Thomas Printing-Kal., 1980: pgs. 3,23-24,29,30,214,215,244-246,248,254,267 (to MDH Consultant Peccia, 5/14/90;SHPO-7/10/90).
6. #73-80255-Stump Town to Ski Town, the Story of Whitefish,MT, Betty Schafer and Mable Engelter, 1973: List of Illustrations (incl 3 of Badrock Canyon); Significance of Landscape-pgs. 24,30,34,272; Historic travel accounts of Badrock-p.21,98; Marlas-p.19; W.C. Berne-p.136 (most sent to MDOH/Vinson & SHPO, 9/18/90).
7. "Berne Brothers Falls Pioneers", Hungry Horse News, 9/21/78 and "Canyon Homestead", HHN, 7/30/1981 Heritage Edition (includes two photos - sent to MDH Consultant Peccia, SHPO, MDH public hearings, 1/25/90).

5

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

STUMP TOWN TO SKI TOWN: the Story of Whitefish, Montana

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Re: Significant Landscape
Lib. Cong. # 73-80255

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



Early train wreck at the tunnel at Bad Rock Canyon.

when Number 3 westbound, the first passenger train, went through Whitefish. Harry Schaefer was its engineer. Conductor B. F. Robertson was in charge of the train. The fireman was Fred Kaeding, and his wife and daughter Esther were passengers. The train was on time. All Whitefish turned out for the occasion, and visitors thronged the town. All regular sleeping quarters were filled, and many slept in the depot.

Railroad construction brought changes in the Whitefish Lake community. Ramsey's Lake View Hotel was overflowing, and he built rail-rovers' barracks in a long, narrow building with eight-foot rooms along

both sides of a central hall. No running water or sanitary facilities were provided the first year. In 1904 some fifty trainmen lodged at Ramsey's. Other hotels and rooming houses appeared also on the hill near the lake and on what has since been called "Engineers' Row" in the Ramsey addition to Whitefish.

Most of the people who came to Whitefish between 1895 and 1904 were transients, boomers, itinerant workers, or merely stopping on their way to the West Coast. Consequently buildings, including homes, tended to be temporary structures intended to last only during the days of railroad construction. Still, when Whitefish was announced



Bad Rock Canyon, seen from Whitefish, looking across Central Avenue businesses (Percy F. Dadds, druggist, and H. E. Duebiler) past the first Whitefish Pilot office on Second Street.

Second Street, across from the present school, and was one of the first buildings to be erected east of Spokane Avenue.

The four-page first issue of the *Pilot* had local advertisements on its front and back "home print" pages, and these gave some indication of the businesses started and the buildings erected between June, 1903, and January, 1904. Advertisers included:

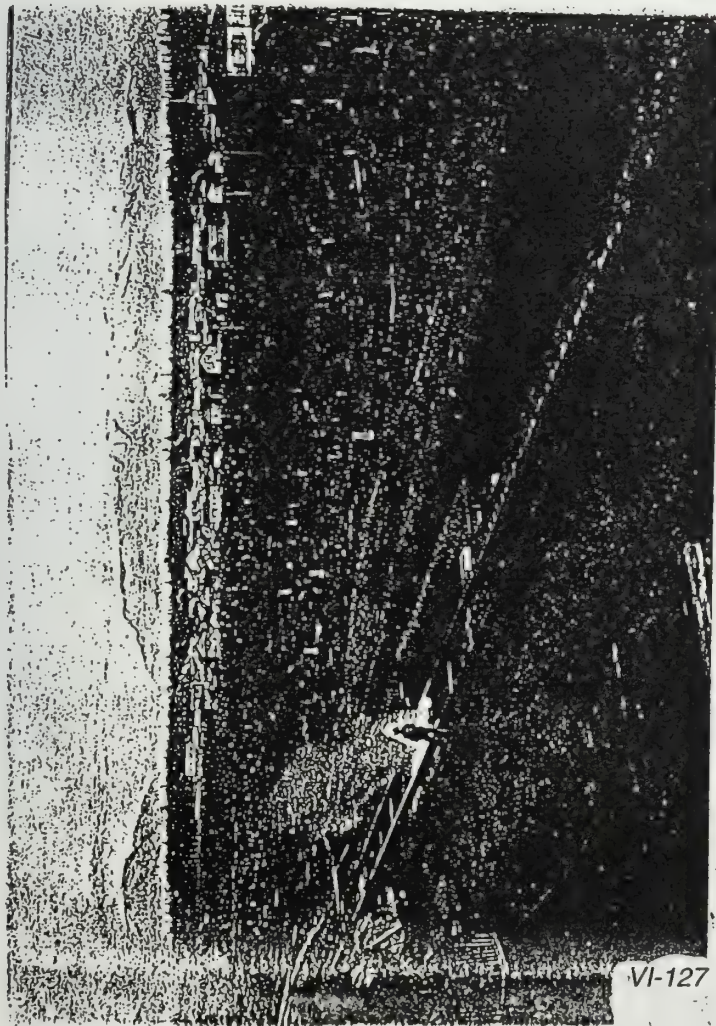
The Whitefish Townsite Company
Whitefish Market — J. A. McCartney, Proprietor
J. E. Skyles — Groceries and Furnishings
Valley House Restaurant — Cimper Aspaas, "Meals 25c or 21 for \$4"
Valley House — George Maeloski, Proprietor⁶
Fancy Groceries — C. A. Matthews
Town of Ramsey, Charles Ramsey, Prop., Lake View House, Butts, Food
Great Northern Saloon — Charles Caruthers
Hotel Whitefish — C. A. Wright & Co.
Brewery Saloon and Concert Hall
Whitefish Restaurant
R. W. Muir Mercantile
Whitefish Beer Hall

⁶ This Second "Valley House" was a rooming house only.

Whitefish Lumber Company — Charles Noble
Tent Barber Shop — Fred Forbes
Brewery Restaurant — J. L. Lane and Co.
L. J. Constock (Mr. and Mrs.) Millinery
Gent's Furnishings
J. H. McCabe and Co. — House Furnishings
Dr. W. F. Paterson, Physician and Surgeon



Pilot editor C. M. Moss (editor from 1919 to 1959).



Stump Town, looking east toward Bad Rock Canyon (circa 1905). Riverside school at far right.

March 15, 1907

The *Pilot's* lead article suggests in lighter vein that its editor has discovered that fine grub worms for fishing are in the old stumps. All anyone has to do is dig up the stump and get all that fine bait. The stumps nearest the *Pilot* office are known to have the *best* bait.

July 26, 1907

"The stumps don't look so bad this year, being mostly hidden by the growth of small bushes and grass. The *Pilot* had intended to start a move to have them painted, but it is hardly necessary now."

June 4, 1909

"The ordinance No. 54 providing for removal of stumps in the streets and alleys was finally passed and was approved by the mayor." A special improvement district was created (for the first time). Landowners had to do the job themselves by an August 15 deadline or be charged by the City. They could pay in

three installments with interest at 6 percent

This ordinance was seventeen pages long—a record. Lists of taxpayers were posted three places about town. Total assessment was \$4,562.75.

Even after the ordinance, the stump problem was not solved. For several years recalcitrant landowners were delaying. The Townsite Company was objecting to removing stumps from streets and alleys bordering on unsold lots and lands. The Great Northern used delaying tactics about removing stumps from its right-of-way. And of course the ordinance required removal of stumps only from streets and alleys.

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



Montana's Historical Highway Markers

Compiled by Glenda Clay Bradshaw

From original text by Robert H. Fletcher
Illustrations by Irvin H. Shorby, Shupe



89. Bad Rock Canyon
U.S. 2, MP 141, east of Columbia Falls

The Flathead River enters the valley through Bad Rock Canyon. Badlanders were that a Blackfoot war party from the Flathead River valley. They came with a small party of about 20 men and 10 horses. They came with a small party of about 20 men and 10 horses. They came with a small party of about 20 men and 10 horses.

31

The departing Blackfoot anticipated some such capture, so they camped and hid. As a result, they took to a projecting ridge on the canyon wall and hid for the time being.

32

He developed into quite a disturbance. Harry a warrior joined his father on the Great Beyond that they returned relatives thereafter referred to that ill-famed episode as Bad Rock.

Roadside Camp in Bad Rock Canyon

Montana's state highway department is establishing a roadside park in Bad Rock canyon along U. S. highway No. 2.

Fred Wells, Kilspeil, division maintenance engineer, also has recommended that the rustic port-of-entry building with its modern rest rooms be moved to the canyon, and that the entire grounds there be landscaped.

It is felt that having the roadside park and port-of-entry station together will result in better maintained facilities for Montana visitors, and in addition provide less highway hazards than the present port-of-entry location.

The development will be near the building erected by Kilspeil, White, and Lutz, and the Montana-Luna group has since been organized in Columbia Falls.

Bad Rock canyon is the gateway into the Flamingo valley for the Great Northern railroad, Flathead river and U. S. highway No. 2. The scenic location, without any developed accommodations, is receiving extensive use by motorists as a camping and picnic spot. Safety situations are serious.

Encouraging the State Highway Commission decision to make the canyon spot a roadside park was the persistent efforts of Mrs. Maybelle Kelley, who carries the star route mail from Columbia Falls to Flamingo Horse and Martin City. A mail carrier in this area since 1918, Mrs. Kelley, a grandmother, drives her mail truck through the canyon four times a day.

Complete lack of accommodations for Montana visitors in scenic Bad Rock canyon disturbed her. There were campers and pickup trucks all through the summer, but no facilities.

Mrs. Kelley wrote Governor J. Hugo Aronson and Scott P. Hart, state highway engineer in Helena. She suggested a series of editorial articles in the Flamingo Horse News, local newspaper, and included editorial with her letter.

W. E. Braden, maintenance engineer for the highway department in Helena, wrote that he planned to advise the state that two toilets placed in this park immediately... it is possible that we can also place some tables. I feel sure that we can classify this camp site as a roadside park and make some improvements in the facilities and its policing.

The star route mail carrier to Flamingo Horse and Martin City from Columbia Falls is accomplishing her mission.

1953 HEN (Honey Horse News)

significance and

Mrs. Maybelle Kelley

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

ADDENDUM

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

(I.) Scientific and analytical accuracy requirements/Environmental Consequences

- 40 CFR 1502.16 (a-h) environmental consequences section must form scientific and analytical basis for comparisons of alternatives.
- 40 CFR 1502.24 requirements for explicit reference by footnote to scientific and other sources relied upon for EIS conclusion.
- 40 CFR 1500.2(b) EIS shall be supported by evidence that agencies have made necessary environmental analysis.
- 40 CFR 1506.5(a) agency responsibility for accuracy of EIS information
- 40 CFR 1507.2(e) agency capability to comply by initiating and utilizing ecological information.
- 40 CFR 1500.1(b) agency responsibility for information of high quality essential to implement NEPA.

(II.) Need for on-going analysis, disclosure of new information, appropriate referencing, etc.

- 40 CFR 1501.2(b) appropriate analysis shall be circulated and reviewed at same time as other planning documents.
- 40 CFR 1502.21 EIS must appropriately incorporate by reference.
- 40 CFR 1502.18 EIS must add as appendix substantial or subsequent analysis, material prepared in connection with EIS.
- 40 CFR 1506.4 EIS process must combine documents.
- 40 CFR 1500.4(o), 1506.4, 1500.5(i) relevant available agency analysis must be combined into subsequent environmental document.
- 40 CFR 1502.10(j) requirement for index in EIS.

(III.) Need for FEIS discussion supporting balanced relationship between unquantified (qualitative) environmental values and Cost/Benefit Analyses

- 40 CFR 1507.2(b) EIS must identify methods and procedures required to insure that presently unquantified environmental amenities and values are appropriately considered.
- 40 CFR 1502.2(g) EIS is tool for unbiased best assessments rather than a justification for decisions already made.
- 40 CFR 1501.2(b) agency responsibility to identify environmental effects and values in adequate detail so they can be compared to economic and technical analysis.
- 40 CFR 1502.23 Along with cost/benefit analysis, an EIS shall discuss the relationship between that analysis and any analysis of unquantified environmental impacts, values, and amenities.

(IV.) Need for adequate "Mitigation" format and discussion

- 40 CFR 1502.16 (e,h) required discussion on means to mitigate adverse environmental impacts (ie. implementation of monitoring and evaluation)
- 40 CFR 1502.24 and 1502.21 requirements for explicit references by footnote to scientific and other sources relied upon for EIS conclusion.
- 40 CFR 1500.4, 1502.10 requirements for a "clear format" in EIS.
- 40 CFR 1505.3 lead agency shall condition funding of actions on mitigation.

SIGNIFICANT ISSUE ANALYSIS

ALTERNATIVES PREFERENCES FROM CONSULTANT'S FILE OF PUBLIC WRITTEN SCOPING COMMENTS
MADE AVAILABLE BY MDH LEGAL - FEB. 7, 1991

1	Two-lane "special design"	10
2	Alternative 4 rural (special design with recreational turnout plan, save Berne Park)	25
3	Alternative 3 urban (3-lane & retain new intersection/toplight @ I-19 & retain speed design)	21
4	Alternative 3 (special design with 4-in SF bridge & 4-in @ Col. Hts./w/ stoplie)	1
5	All. 1 or 2 (4 or 5 lane w/o stoplie/speed limit)	2

6. OTHER ALTERNATIVES COMMENTS / SIGNIFICANT ISSUES:

30	Consider Badrock/Berne Park under WSR Act (Implement WSR/Recreational Study Plan and NEPA)
19	Design to save Berne Park
11	Badrock Canyon Scenic Corridor/preservation
5	Bike Path Important
4	Reduced speed design (scope #1-22 supported on Applicant Summary)
3	Safe pedestrian crossing plans
2	No continuous LTL rural/unreasonable (County Planning)
1	Narrow N. shoulder Berne Pk. to prevent parking
1	Move hwy w. of CL to save R/W costs
1	No unique plans for unique area presented yet
1	LTL & turnout @ House of Mystery

Prepared by CDP Research

SIGNIFICANT ISSUE ANALYSIS

CONSULTANT'S FILE OF PUBLIC WRITTEN SCOPING COMMENTS
MADE AVAILABLE BY MDH LEGAL - FEB. 1, 1990

63	2. MAINTAIN WILDLIFE/CROSSING CORRIDOR (incl. preserve natural cliffs)
50	4. SAVE BERNE PARK
60	5. RECOGNIZE NCD GBE (Implement ESA - 1982 Quality Recovery Plan)
41	6. (PRESERVE) RIPARIAN HABITAT (for river and eagles)
41	7. NO NEED FOR 4-LANE (incl. no widening, no excess impact)
35	8. COST-EFFECTIVE HIGHWAY DESIGN (as reasonable alternatives)
30	9. (PRESERVE) WATER/SPRING QUALITY (at Berne Park)
29	10. COST-BENEFIT ANALYSIS IMPORTANT (incl. save \$, excess cost to taxpayers)
28	11. SCENIC ENHANCEMENT PROGRAM in context (incl. Great Northern Mountain scenic tunnel)
18	12. IMPLEMENT SECTION 4(f) @ BERNE PARK (incl. DOT Act88)
15	13. (PRESERVE) HISTORIC & CULTURAL VALUES
13	14. IMPROVE PUBLIC SAFETY
10	15. 4-LANE DESIGN PREFERENCE
8	16. BICYCLE TRAVEL IMPROVEMENT
5	17. SCHOOL CROSSING HAZARD @ Col. Heights

Applicants list

Prepared by Sharon L. Willows, Certified Planner
CC: FINVA Division and Region, JAD01 Applications/Consent/2/12/90

Affidavit

STATE OF Montana)
COUNTY OF Flathead) ss:

KNOW YE ALL MEN BY THESE PRESENTS,

That on this 16th day of December, 19 92, personally came and appeared before me

LEE PERCOT, of Bigfork, MT, State MT, Zip 59912,
Street Address Apt. No.

known, and known to me, who, after being first duly sworn, deposes and says:
"I was told after inquiring about 'Bene Park' that it would look just the same as it does now, and looking would be just the same" after being at ALT (1) Synovite was not mentioned and at that pt. I was not familiar with projects in the EIS.

(Signed) Lee Percot

SUBSCRIBED TO AND SWORN TO BEFORE ME THIS 16th day of December, 19 92

(Signed) Rose M. Hall Notary Public

My commission expires 1-11-93

These materials were submitted as attachments to Sharon L. Willows 12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.



DOWNSCOPE

These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

Page 2
October 13, 1989

October 13, 1989

SIGNIFICANT SCOPING COMMENTS #1

RECONSTRUCTION OF U.S. 2 BETWEEN BADROCK CANYON AND HUNGRY HORSE PROJECT F1-2(39)139/4(f)

LEGAL HISTORY - PROJECT F1-2(39)139/4(f) / DISCLOSURE OF FACTS

This project has a separate and distinct geologic, cultural, and legal background warranting separate and distinct EIS review; that is, not to be intermingled with adjacent Columbia Falls city planning issues which do not require EIS review. Federal and State highway agencies have not yet substantiated "need" for full EIS review for adjacent Columbia Heights section, Project F-2(39)138, located within Columbia Falls jurisdictional planning area zoned "highway commercial and light industry".

The legal history of the Badrock Canyon section dates back ten years: In 1979 and 1984, Plaintiff's case Coalition for Canyon Preservation v. Karl S. Bowers, Administrator Federal Highway Administration, et al. spent total seven (7) days in U.S. District Court (CV 79-1-M), prevailing in the Ninth Circuit 1980, No. 79-4843 @ F.2d 774-786 on all counts except for cumulative impacts on Badrock Canyon because insufficient evidence of record showing 4-lane planned through Canyon area.

Court ordered EIS, FHWA-WT-EIS-81-02-D, April 1982, recognized Badrock Canyon and Berne Memorial Park as part of "environmentally sensitive areas" (pgs. 67-71). Again, Columbia Heights area was and is not environmentally sensitive. Similar highway planning projects for U.S. 2 (Lasalle) and Hwy 93 (KalisPELL-Whitefish) did not warrant EISs. Major environmental and preservation laws are applicable to the Badrock Canyon section not to the Columbia Heights zoned area. U.S. Dist. Court discovery actions established "logical termini" for the sensitive area at landmark Badrock Canyon, not at urban intersection in Columbia Heights. The Columbia Heights planning section requires an Environmental Assessment (EA) not an EIS.

Facts subsequently established in U.S. District Court (1984) on the Badrock Canyon section are explicitly applicable to this subsequent EIS. Refer to Transcript, CV 79-1-M, pgs. 178-180, 186, 238, 240, 244, 247-249, 276-279, 455, 504, 617. The CCP is de facto "third party" to the Badrock Canyon section, a significant situation not applicable to adjacent urban section.

COALITION FOR CANYON PRESERVATION, BOX 432, HUNGRY HORSE, MT 59919
DOWNSCOPING FOR BETTER USE OF SCARCITY HIGHWAY FUNDS.

Facts established in U.S. District Court in 1984 further established the "environmentally sensitive areas" (1982 FEIS, p. 68) to be the NCD CBE (Northern Continental Divide Grizzly Bear Ecosystem), a federal administration area of national significance recognized as "threatened ecosystem". See Plaintiff's Exhibits 30 and 31. Badrock Canyon/Berne Memorial Park are the geographical and historical entrance to this ecosystem. Columbia Heights is not included in this NCD Ecosystem; parameters outlined in cited exhibits (Grizzly Bear Recovery Plan and map of ecosystem).

In March 1988, the MDOH finally made evident their long-held undis-closed plan to irreparably impact Scenic Badrock Canyon and Berne Park. This road section was listed as construction to "close 4-lane gap" on document titled "New Primary Nominations" by Montana Highway Commission. In other words, a decision of record has already been made prior to this NEPA process - an explicit violation of NEPA. At this time, the planning process for the Badrock Canyon highway section has been significantly prejudiced by MDOH actions:

1. advancing action to nominate 4-lane design at Montana Highway Commission meeting, March 1988, and subsequent public news releases. This action requires nullification based on 40 CFR 1500 requirements.
2. advancing EIS contractual action to confuse and "water-down" the Badrock Canyon issues by including adjacent, non-sensitive urban area (that has already been zoned) into EIS review process. During 1988, the MDOH was repeatedly "put on notice" early in the planning process and prior to the EIS contract of "logical termini" facts established.

CONSULTANT CONTRACT REQUIRES MODIFICATION AND/OR AMENDMENT

The consultant contract for the NEPA review requires modification to properly separate the projects:

1. allocate full EIS review to the highway section of legal record affected by compliance requirements of numerous federal preservation laws; and,
2. allocate appropriate EA review for the adjacent zoned urban section that is not environmentally sensitive.

INAPPROPRIATE SCHEDULING OF 4(f) EVALUATION

Consultant's flowchart for preparation of EIS shows 4(f) evaluation as a final action rather than "evaluated early in the development of the action when alternatives to the proposed action are under study", 23 CFR 771.135(b). The mis-scheduling of 4(f) evaluation requires correction and appropriate action.

SECTION 4(f) DOES NOT PROVIDE FOR RELOCATION OF HISTORIC SITE/PARKLAND

Section 138 of the Federal-Aid Highway Act and Section 4(f) of the Department of Transportation Act of 1968 (23 CFR 771.135) do not mention or discuss relocation of parkland for compliance purposes. EIS consultant presented an expressly illegal scheme to relocate Berne Park at the official "scoping" meeting held October 3, 1989 in Columbia Falls. This relocation scheme is erroneous, contrary to explicit compliance requirements for Section 4(f), and has already significantly misled the public during the NEPA process. A full discussion of Section 4(f) and case law from *CCP v. Bowers, et al.*, Brief of Appellant, pgs. 42-49 is hereby entered into the record as significant scoping comment.

IMPACTS ON BERNE PARK - PUBLIC RECEIVED MIS- INFORMATION AT SCOPE MEETING

Consultant's information packet for "scoping" meeting contained unsubstantiated conclusions on this essential topic further misleading the public. "Impacts on Berne Park" are the subject of yet-to-be performed 4(f) evaluation as well as proper NEPA procedure outlined in 40 CFR 1500. Major "scoping" conclusion is blatantly unsubstantiated and unwarranted: "There is not sufficient area through the park to provide a new road, safe accesses, and parking areas due to the steep terrain and proximity of the river."

Obviously, a specially-designed 28 ft.-wide 2-lane could be reconstructed through Berne Park consisting of 2-12 ft. lanes, park is shoulder/turnout for south side, AASHTO minimum shoulder standard on north side (4 ft.). A modern, specially designed 2-lane would save the cultural landmark and can be justified using cost effective highway design methodology and "downscoping" policy for sensitive areas with high seasonal traffic fluctuation. Notes taken at the scoping meeting show that public concerns about Berne Park were the most important issue raised (including water supply, maintain integrity, fisherman's rock, river protection of riparian areas/surface water).

Based on appropriate guidelines for preparation of EIS/4(f), evidence is hereby established showing consultant's collusion with MDOH improper procedures and official actions to mislead the public with premature and unsubstantiated "information"/conclusions. This issue will be immediately brought to the attention of FHWA authorities in Washington, D.C. Critical conclusions have been made prior to correct NEPA/4(f) process improperly presented as information at "scoping" meeting. Relocation of parkland, an alternative expressly contrary to Section 4(f) law, case law, and CFR regulations, was presented to the public improperly as a reasonable and necessary alternative.

FACTS ESTABLISHED IN 1984 U.S. DISTRICT COURT DISCOVERY ARE APPLICABLE

The court ordered EIS (FHWA-MT-81-02-D, April 1982) was prepared by the same consultant. Numerous facts were subsequently established in U.S. District Court in 1984 (CV 79-1-M) regarding methods, procedures, and conclusions reached in the 1982 FEIS. The consultant would therefore be responsible for formal integration of facts established through extensive legal discovery process explicitly applicable to the new EIS.

NEED FOR IMMEDIATE "HIGHWAY SAFETY IMPROVEMENT PROJECT"

During the summer of 1988 the MDOH performed a Highway Safety Improvement Project between Columbia Heights and South Fork Bridge - Project HES 1-2(29)138, N.E. of Columbia Falls. The project omitted any safety improvement work between Berne Park area (MP 140.3 to 141.3) and the South Fork Bridge. The area omitted from the Improvement Project may have the highest accident rate because of the curve and particularly the complete lack of sight distance because trees have not been cleared. This section of highway is critical, often icy/slippery because of close proximity to river, requiring warning signage for slippery/icy conditions. The MDOH has had large construction equipment in the immediate vicinity for numerous recent years and has actively resisted bringing this approx. one mile stretch up to modern safety standards without an EIS (ie. CCP/Wicks, 9-19-88, 9-30-88). Currently, MDOH response (Beck, 10-3-88) requires immediate substitution: "...to effectively improve stopping sight distances within this narrow highway corridor would have required expenditures for right-of-way and construction that were outside the cost/benefit ratio for a project of this type. Therefore, sight distance corrections were not included." CCP hereby requests access to the source of said conclusion. Based on information at the plat office of Flathead County Courthouse, MDOH currently has 200 ft. right of way through the corridor which is certainly adequate to widen the shoulders and correct the curve. The MDOH has recently stated in local press that "Work on any part of the (Col. Hights/H.H.) job is not expected to begin until mid-1995." The CCP is on record as advocating immediate reconstruction of a 44-ft. modern 2-lane through the corridor since 1979 - an action that would bring the road up to safety standards and would not require expensive EIS proposing expensive schemes to demolish the scenic corridor. The MDOH is negligently delaying reasonable safety improvement work on this section. This situation requires re-evaluation based on 23 CFR 924, 23 CFR 1204.4, and DOT/FHWA Value Engineering For Highways (CV 79-1-M, Pl. Exh. 35).

HAZARD CREATED WITH ⁶⁰MP SPEED DESIGN IN PREDOMINANTLY ICY/SLIPPERY CONDITIONS

The Canyon corridor is unique because of its close proximity to the Flathead river with consequential high incidence of accidents caused by icy and wet conditions. Highway engineering cannot mitigate existing river fog conditions typical in the corridor. A 4-lane highway will likely create hazard of increased speeds in improper conditions.

BAD ROCK CANYON. SCENIC CORRIDOR

"In line with the Commission's policy of honoring the memory of the State's pioneers" (see attached Swaney, 1-4-54), the Montana Highway Commission entered into agreement with the Berne family to establish and maintain a public roadside park for Bergevin and Sale Deed(s) recorded at Flathead County (1954-p. 206; 1959-p. 5). The MDOH has administered the popular park since its inception under the state's roadside park program.

The deed states: "...said property be used solely as a roadside park (including use of a part thereof as a Port of Entry station) and for highway right of way...any breach of the foregoing conditions, or any of them, . . shall have the effect of forfeiting the title of the grantee and thereupon the title to said real property shall revert to the grantors, their heirs and assigns..." Refer to attachment dead.

All historical information about Billie Berne who homesteaded the area in the late 1800's before railroad or highway construction is significant background information to be included in the EIS. In addition, the Montana Highway Commission's policy of honoring the memory of the State's pioneers is a significant issue requiring disclosure in the EIS. The MHC may have taken unknown action to breach this agreement by nominating a 4-lane between Col. Heights and Hungry Horse (March 1988).

The plan to breach contract deed requires full discussion and evaluation in the Section 4(f) review document. The contractual basis for establishment of MRC/MDOH jurisdiction of Berne Park requires full discussion and disclosure of exact language in the EIS itself.

PROJECT P1-2(39)138 - COLUMBIA HEIGHTS

In 1979 - 1980, over 2000 participants sent postcards to the MT Department of Highways and other officials supporting the "Badrock Canyon Scenic Corridor" west entrance to Glacier National Park and Great Bear and Bob Marshall Wilderness. The well-known and self-evident scenic beauty of Badrock Canyon merits application of national highway policy for "preservation of valuable adjacent scenic lands". This policy includes landscaping and acquisition of interests in strips of land adjacent Federal-aid highways "as necessary for preservation and enhancement of scenic beauty". This appropriate federal program has not yet been applied to the corridor. The canyon drive includes potential for building a turnout with some selected vista clearing and/or the building of a scenic overlook structure to view Great Northern Mountain in the Great Bear as well as saving the popular Berne Park turnout. See 23 CFR 752. The CCP has taken park use data during peak traffic of July/Aug. Consistently during 15 minute counts, tourists stop at Berne, cross the highway to sit on Fisherman's Rock and/or to take photos of the beautiful river canyon vistas. Significant numbers of recreational rafters also get out of the river immediately west of Fisherman's Rock



EXECUTIVE ORDER 11988 - FLOODPLAIN MANAGEMENT @ 40 CFR 6030

A 1947 MDOH FAP 257-A map for the Berne Park Area verifies the high water mark nearly coincides with the highway route. Berne Park was flooded for over one week in 1964. The 1975 flood was not as high; a flood in the 1880's was apparently as serious as the 1964 flood (this requires background research). In other words, the Canyon highway poses some very unusual circumstances requiring Value Engineering principles. MDOH plans for extraordinary "lateral encroachments on the river in the narrow Badrock Canyon" must be avoided because it is incompatible floodplain development. It is the policy of PHWA "to prevent uneconomic, hazardous or incompatible use and development of the Nation's flood plains" and "to restore and preserve the natural and beneficial flood-plain values that are adversely impacted to by highway agencies". Preserve means "to avoid modification to the functions of the natural flood-plain environment..." Re: 23 CFR 650.103. "The code places an additional emphasis on an economical plan through the park area that coincides with high water mark as shown on attached map. Alternatives to avoid encroachment on the Platteau River require priority treatment. The "natural and beneficial floodplain values" through the canyon require full disclosure in the EIS. Please note public involvement procedures specifically for such encroachments at 23 CFR 650.109.

PROJECT P1-2(39)138 - COLUMBIA HEIGHTS

This area is within the Columbia Falls city planning jurisdiction zoned highway commercial and light industry. There are no environmentally sensitive issues except for hazards created by 4-lane to children crossing (identified as significant issue at "scoping" meeting by school bus driver) and mitigation of environmental impacts to privately owned wetlands at 23 CFR 777 (a significant wetland is located at bottom of hill east of Columbia Heights.) Again, State and Federal highway agencies have been unable to justify full EIS review in this area therefore an EA is warranted.

NEED FOR COMPREHENSIVE COST-BENEFIT ANALYSIS

The EIS should clearly identify which alternatives do not require costly BPA powerline relocation and which alternatives do not require costly right-of-way acquisition. The Flathead County plat office shows MDOH right-of-way is currently 200 ft. wide allowing ample construction area. Any new R/W proposals should be thoroughly justified. Please note DOT/FHWA Federal-Aid Highway Program Manual 6-1-1-1. Controlling Design, Construction, and Maintenance Costs to Combat Inflation; and FAHPM 6-1-1-1-12 Costs of Providing and Maintaining Pavements are applicable. In other words, future costs of maintaining an overbuilt highway must be included in the cost-benefit analysis. What are the costs for maintaining the pavements of all alternatives considered. "Evaluating the effectiveness, in terms of cost, of alternative design, construction, maintenance strategies" and "Predicting future funding needs for pavements" are program objectives of FAHPM 6-1-1-1-12.

DEVELOPMENT OF LIMITED ACCESS CONTROL IS NOT SIGNIFICANT

Agency officials have decided this to be significant. What is the justification? 23 OER requires limited access control for interstate highways but not on primary federal-aid highways. Development of limited access control has not been a major significant issue for other MT highway construction projects.

MITIGATION TO PROTECT VISUAL TREE SCREEN SERVING AS WILDLIFE COVER

The Canyon serves as utility corridor for highway, two BPA powerlines, gas line, and electric lines/power station. A visual screen of forest cover approx. 20-30 ft. wide now hides the BPA powerlines. This visual screen of mature trees requires protection to maintain and enhance the significant scenic qualities and existing wildlife cover in this corridor. Consideration of "General Scene" is absolutely imperative. MDOH proposals have the express potential to devastate the significant scenic and wildlife values for which the canyon corridor is famous. In addition, large cottonwood trees along the river stabilize the river bank and are documented as bald eagle perch sites. These factors require discussion and identification as significant issues in the EIS. Badrock Canyon is the U.S. 2 west entrance to an established ecosystem, Glacier National Park and the Great Bear and Bob Marshall Wilderness. The corridor should maintain the "general scene" commensurate to serving as the major gateway or "port of entry" to these national designations.

PROTECT WILDLIFE CROSSING CORRIDOR

The Canyon area is an essential wildlife crossing corridor for bear, deer, and elk. This narrow crossing corridor links the Swan and Whitefish Ranges and is located at the confluence of the South and Middle Forks of the Flathead River. Because of development in the towns nearby, the Badrock area is a last remaining wildlife crossing corridor. The wider the highway, the more impact to wildlife crossing.

EIS SHOULD IDENTIFY AND PROTECT NCD ECOSYSTEM

Badrock Canyon is the geographical entrance to a federal administrative area, the NCD GBE (Northern Continental Divide Grizzly Bear Ecosystem) - an area of national significance. This ecosystem is threatened by multiple peripheral developments and is officially recognized as a "sensitive area" subject to mitigation of impacts. (Refer to p. 2 of this comment for further discussion regarding CV 79-1-M facts established during 1984 discovery process.) The EIS should include adequate discussion and information about the NCD GBE. The EIS should include a graphic map showing the Badrock Canyon/Berne Park highway project located within the parameters of the NCD GBE. Refer to attached Pl. Exh. 29 and 33 for further info.

COST-EFFECTIVE HIGHWAY DESIGN METHODOLOGY IS REASONABLE ALTERNATIVE

This construction proposal, as well as cost of EIS consultant contract, is 75% federal funds. The Federal Highway Administration accepts several design methodologies particularly applicable to recreational routes with high seasonal traffic fluctuation:

(1.) REDUCTION OF DHV FACTOR (K) OVER TIME. This cost-effective highway design methodology is discussed in the Highway Capacity Manual and Pignataro's Traffic Engineering Theory and Practice. In 1982, FHWA-D.C. received 249 public FEIS comments supporting the use of DHV reduction methodology for the scenic west entrance mileage to Glacier National Park. Many states recognize HCM conclusions - K as a rule decreases as the AADT increases. Research conducted by Oregon and Colorado shows the DHV factor does decline but at different rates.

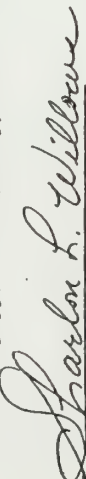
(2.) EXCEPTION TO THE 30TH HIGHEST HOUR DESIGN CRITERIA/USE OF "KNEE OF THE CURVE CONCEPT" (HIGHEST HOURS PLOT)
The Policy on Geometric Design of Highways and Streets, Project 20-7, is the state-of-the-art in highway design. Page II-36 of that document states: "Exceptions (to the 30th highest hour design criteria) may be made on roads with high seasonal traffic fluctuation." Recent professional literature recommends using a range of DHV targets, ranging between the 50th and 600th highest hourly volumes. Many states use exceptions to the 30th highest hour design criteria, dependent upon site-specific needs and especially on recreational routes with high seasonal traffic fluctuation.

(3.) DOWNSCOPING DESIGN CRITERIA TO LEVEL OF SERVICE C FOR RURAL PRIMARY HIGHWAYS SERVING AS RECREATIONAL ROUTE.
This concept was recently applied on the rural corridor between Coram and West Glacier. This methodology is based on criteria discussed in the 1965 HCM, a nationally accepted standard for highway design; and in the Policy on Geometric Design of Highways and Streets, NCHRP 20-7.

Please refer to applicable legal history, facts established through formal discovery, CV 79-1-M. These three (3) reasonable and practicable cost-effective highway design methodologies are a reasonable and prudent alternative to the "taking" of public parkland from a historic site and landmark. These alternatives to the taking of parkland require consideration (reasoned) and full disclosure in the Section 4(f) Determination. These alternatives provide a reasonable alternative for protecting the Badrock Canyon Scenic Corridor west entrance to Glacier National Park. The use of these methodologies require application along with necessary Value Engineering principles (see Pl. Exh. 35). Pl. Exh. 46 comprehensively documented cost effective highway design practices.

As research organization, the CCF plans on having independent traffic and accident analysis performed on the Badrock section, tentatively by the University of Calgary, Alberta. This "scoping" comment shall serve as formal request for access to all traffic count and accident data for the Badrock Canyon project. Application of appropriate "decisional criteria" resulting in mitigation of impacts has been at the core of this project's legal history. Based on NEPA law, this reasonable alternative must be fully considered and discussed in the EIS.

This "Scoping" comment mailed to EIS consultant via U.S. Certificate of Mailing, October 13, 1989: Robert Peccia and Associates, P.O. Box 5653, Helena, MT 59604. Prepared for and by:


Sharon L. Willows, C.R.A.
Research Coordinator
Coalition for Canyon Preservation

Protect Park Resources

THE COALITION

P. O. Box 422, Hungry Horse, MT 59919
PROMOTING COMPLIANCE WITH ENVIRONMENTAL LAW

enclosures:

- evidence showing violation of 40 CFR 1500.1(b):
 - CCF/Wicks, 5-13-88
 - MDOH "New Primary System Nominations" and news article
- applicable wildlife mitigation information:
 - Pl. Exh. 29, McClelland/Wicks, 8-3-81
 - Pl. Exh. 33, Jonkel/Larson, 7-6-82
- *Note: Border Grizzly Project was not included in agency mailing for Notice of Intent. Please rectify.
- PL. Exh. 31 in portion
- Berne Park Deed, news article/1954, MHC policy document, and memorial fountain documents-7 pages.
- 1947 MDOH Berne Park map, FAP 257 A.
- Roadside Geology, p. 72

These materials were submitted as attachments to Sharon L. Willows
12/21/91 letter with comments on the Draft EIS/Section 4(f) Evaluation.

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Protect Dept. Document
Address: THE COALITION
I. O. Box 1000, Helena, MT 59601
PROMOTING COMPLIANCE WITH ENVIRONMENTAL LAW

COMMENTS RECEIVED:

- (1) Outdated proposal/information in DEIS, III-17. The Crown of the Continent Ecosystem Center near West Glacier has been dropped by NPS/USDA FS and is no longer proposed for West Glacier area.
- (2) III-15 - specific population data of the project area (from 1990 census) should be available and integrated into FEIS. The actual census figures should be shown to verify DEIS conclusion stating "new census figures suggest that the population of the general project area has grown since 1980". Get the actual census figures for FEIS disclosure, rather than conjecture. For ex:

Col. Falls	1980	1990
	3,112	2,825
South Fork Div.	2,000	2,200

? - what are statistics for the Columbia Heights/Monte Vista areas.
- (3) We question assumptions in Noise impact analysis, IV-13.
 MDT estimates sound levels increase by 4dBA due to reflection from rock cliffs at Berne Memorial Park. This may be true at locations immediately adjacent rock cliffs (mp 141, mp 140.5). However, the midportion of Berne Park is mature cottonwood/conifer, lush tree foliage and very thick moss cover over mountain area. It would appear this foliage/vegetation would absorb noise rather than reflect noise.

Sharon L. Willows
Research Coordinator

RESPONSE TO COMMENTS ON DRAFT EIS
Coalition for Canyon Preservation
Sharon L. Willows (12/92)

1. **RESPONSE:** Contacts with the USFS indicate that the proposal to develop the Crown of the Continent Ecosystem Center has been dropped from consideration. The text on page III -17 of the Draft EIS was modified accordingly for the Final EIS.
2. **RESPONSE:** The text for the Final EIS was revised to incorporate appropriate information from 1990 Census about the residents of the Badrock-Columbia Heights and South Fork Divisions.
3. **RESPONSE:** Your comment is correct. The vegetated area between the eastern and western cliffs at Berne Memorial Park would be expected to reflect less sound energy than rock faces. With this in mind, some localized reductions in the predicted current and future peak hour noise levels would be expected within the park.

p. 1 of 2

SHARLON L. WILLOWS, C.L.A.



HUNGRY HORSE
MONTANA 59416

Dec. 22, 1992

Re: Project F1-2(39)138, Hungry Horse

Dear sir at MDH/MDT,

(1) It has been brought to my attention that houses are being relocated because the highway (US2) is being moved much closer to all the residences on South Fork Hill. The DEIS does not disclose where residences are scheduled to be relocated.

VI-137

RESPONSE TO COMMENTS ON DRAFT EIS
Coalition for Canyon Preservation
Sharlon L. Willows (12/22/92)

1.

RESPONSE: The proposed reconstruction at the west edge of Hungry Horse would be accomplished within the highway or street right-of-way that already exists on the north side of US 2. Construction permits may have to be obtained for some residential lots adjacent to 6th Street West in Hungry Horse where construction activities may cause minor disturbances to these properties. The proposed reconstruction in this area would not require the relocation of any residences or businesses.

A new table (TABLE IV-6) identifying the right-of-way impacts for the build alternatives has been included in the Final EIS.

The properties listed in the new table are referenced to the right (south side of US 2) or left (north side of US 2) of centerline stations established for this project. Existing structures, centerline stationing, and the existing and proposed right-of-way for US 2 identified in the new table are shown on the preliminary plan drawings presented on pages A4-2 to A4-4 of the EIS. These drawings show the relationship between existing structures and the construction limits and right-of-way requirements for the preferred alternative.

The DEIS also provides wrong info. regarding maps of H. Horse, 5th & 6th Sts.

The adverse effects of moving highway closer to several blocks of residences has not been disclosed nor discussed in EIS. Is my house at Lot 2, Block 2, Southfork going to be impacted? How much closer will the highway be? Why wasn't this info. presented at the hearing? Please respond with specific information. (over)

VI-138

2.

The preliminary plan drawing on page A4-4 of the Draft EIS has been modified for the Final EIS to correctly show 5th and 6th Streets West in Hungry Horse. Please note that this drawing denotes existing and proposed right-of-way, the proposed centerline for US 2, and existing structures at the west edge of the community.

RESPONSE: "As-built" plans for the previous reconstruction project in Hungry Horse show that the residence on Lot 2, Block 2, of the South Fork Addition is about 83 feet from the back of the existing curb along the north side of US 2 and 105 feet from the existing centerline of the highway. Preliminary design plans for the preferred alternative would place the location of the back of the new curb some at about 67 feet from the residence and the new centerline at 100 feet from the residence. The edge of the nearest travel lane would be about 76 feet from this residence.

One of the primary adverse effects of moving the highway closer to residences would be associated with increased noise levels. Analyses show that at travel speeds of 55 mph, locations between 75 and 150 feet from the existing or new centerline would experience increases in noise levels of between 4-5 dBA by the design year. These increases would exceed FHWA's Noise Abatement Criteria for residential uses but do not represent a substantial (more than 10 dBA) increase over current peak hour noise levels.

The presentation at the public hearing disclosed the fact that residential relocations were anticipated with this project. Without design and location approval or final design and right-of-way plans, it is only possible to provide property owners with a preliminary indication of where right-of-way impacts may occur. If approved, the right-of-way impacts associated with the final design could vary slightly from those discussed in EIS.

The information in the table presented in the previous response is as specific as possible without the benefit of final design plans.

3.

RESPONSE: Various bridge options for the South Fork crossing, including the idea of rehabilitating the existing 55 year old bridge and building another parallel structure in a pre-program review conducted in 1988. The Bridge Bureau's investigations showed that the estimated cost of building a new four-lane bridge was only about 5% higher than the estimated costs of rehabilitating the existing two-lane bridge and adding a second parallel structure. Rehabilitating the bridge would not resolve traffic safety concerns associated with the sharp curves approaching the structure.

For the reasons above and because rehabilitation would require complex structural modifications to the bridge and substantially affect traffic flows on US 2 during the work, construction of a four-lane structure on a new location was recommended. This recommendation was incorporated into the development of alternatives for the EIS.

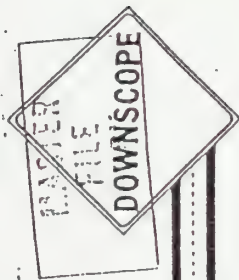
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(2) The DEIS fails to consider Rehabilitation of existing South Fork Bridge as required by Federal guidelines. This bridge has adequate sufficiency rating (49/50) to undergo consideration for rehabilitation.

2a) The 5-lane bridge as proposed for the South Fork River is excessive and obtrusive. A 5-lane bridge will dominate the entire river environment. EIS should consider Rehab of existing bridge plus construction of 2-lane plus pedestrian/bike path upstream to move highway intrusion away from residences. This concept of divided bridges would mitigate the adverse impacts downstream.

VI-139

4. **RESPONSE:** A four-lane bridge for the South Fork River crossing has been proposed with all build alternatives considered in the EIS.
5. **RESPONSE:** The idea of constructing another two-lane structure upstream from the existing bridge does not recognize that substandard geometric conditions that exist on the east and west approaches to the existing South Fork bridge would be perpetuated. The substandard curve on the west approach to the South Fork bridge and the steep grade on the east approach to the structure bridge are conditions that this project is intended to improve.



PHWA-MT-EIS-92-02-D
December 28, 1992

RECEIVED
MONTANA DEPARTMENT
OF TRANSPORTATION

DEC 31 1992

LEGAL SERVICES

Lyle Manley, Legal Division
MT Dept of Highways/MDT
2701 Prospect Ave
Helena, MT 59620

RE: Information Request - DISCLOSURE OF THE "10 to 20" residents/
residences proposed for
Relocation, IV-35

Dear Manley,

The draft EIS cited above states, "residential displacements would directly affect some 10 to 20 residents of the project corridor", IV-35. Please send a copy of project alternative (PA) showing all "10 to 20 residents" that will be directly affected. This should include locations of the PA's "6 households displaced", IV-35.

PLEASE NOTE ADDITIONAL MAJOR ERROR IN DEIS. IV-35. The DEIS falsely concludes "There are no neighborhoods, public facilities, non-profit organizations, or special family groups that will be directly or indirectly affected by the proposed action." DEIS CONCLUSION IS BLATANT FALSE ERROR:

- * the South Fork neighborhood on SF hill will be directly affected with possible (undisclosed) household displacements while moving the highway much closer to several blocks of residences. Business Office for CCP, non-profit org. maybe affected
- * Berne Memorial Park is a public facility directly impacted by this proposal to "blowup" the west half of the Park that includes the reknowned ice fall.
- * the Monte Vista neighborhood has been omitted from DEIS.
- * the Stratton residence on South Fork hill would qualify as special family group.

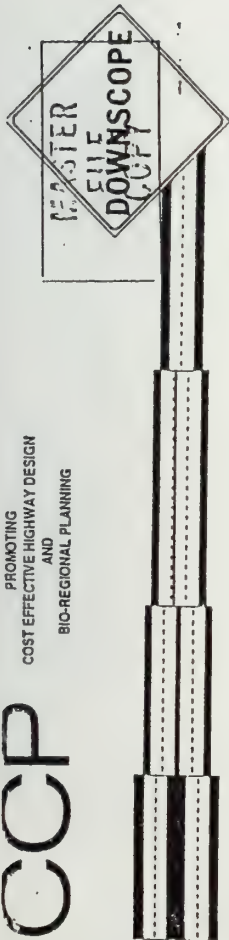
Please consider this a comment on the grossly inadequate and dishonest DEIS. The Relocation Plan must be exposed and discussed in EIS process as adverse impact. The costs of this location alternative must be disclosed for particular areas such as South Fork hill (where a location alternative south into Forest Service land would avoid all impacts to numerous unidentified residences in the South Fork neighborhood, Hungry Horse). Please refer a copy of this to public hearings unit for DEIS. Thank you for billing the CCP for the project map showing proposed direct impacts and displacement. A check will be sent soon as we know.

Sharon L. Willows C.I.A., Research Coordinator

COALITION FOR CANYON PRESERVATION, BOX 432, HUNGRY HORSE, MT 59819
DOWNSCOPING FOR BETTER USE OF SCARCER HIGHWAY FUNDS.

RESPONSE TO COMMENTS ON DRAFT EIS Coalition for Canyon Preservation Sharon L. Willows (12/28/92)

1. **RESPONSE:** Please see the response to comment 1 made in your letter dated December 22, 1992 presented earlier. This response indicates that locations where relocations and right-of-way impacts may occur as a result of this project are shown in TABLE IV-6 of the Final EIS. The estimate of 10 to 20 residents affected by relocations is based on six residential relocations and an average occupancy rate of 2.7 persons per household. The average persons per household data was based upon information contained in the Columbia Falls Planning Jurisdiction Master Plan, 2000.
2. **RESPONSE:** There are no relocations proposed for the residential area located on the South Fork Hill at the west edge of Hungry Horse. Construction of the proposed action would occur within the existing highway and street rights-of-way. Berne Memorial Park is a public park and recreation area. In the analysis of social impacts, public facilities are most often considered to include educational facilities, public utilities like water and wastewater systems, government administration buildings, health care facilities, and public safety facilities like police or fire stations. The Section 4(f) Evaluation describes the impacts to Berne Memorial Park. The proposed highway reconstruction in the vicinity of Monte Vista Drive or the South Fork Hill would not split existing residential areas, isolate portions of residential areas, or separate residents from community facilities. The proposed action would require the relocation of a home/business that exists along the highway near the intersection of US 2 and Monte Vista Drive. No displacement of residents, businesses, or special family groups is anticipated in the South Fork hill area at the west edge of Hungry Horse.
3. **RESPONSE:** The new highway would be constructed within the existing right-of-way at the west edge of Hungry Horse.



Memorandum

Re: DEIS/4(f) Comment submitted by CCP
 FHWA Cert # P 756 069 980
 DOH Cert # P 756 069 982

Please make the following adjustments:

(1) Correction of error, p. 10 @ (2)(A): The 4(f) Evaluation deemed CCP Research and vehicle count data at Berne Park but did not misrepresent as stated. (a) Please change to: "CCP research spent 8 hours taking vehicle use counts at Berne Park". (Change from 32 hours to 8 hours).

(b) Please cross out the following sentence at bottom of page: "Then, the 4(f) Evaluation misrepresents....32 15 minute counts".

(2) Add the attached letter from Flathead Regional Development Office, 7/19/90, as exhibit to the DEIS/4(f) comment as discussed on p. 23,(7)(1).

The Flathead Regional Development Office opposes the 5-lane urban design in rural area below Columbia Heights and at the west entrance to Bad Rock Canyon. This comment and local planning directive was completely ignored in DEIS and remains undisclosed. Please note new authority and duty in this regard [ISTEA, subsection 135(c)(1)(4)] whereby highway agencies must consider the effects of transportation decisions upon land use.

The EIS process has not discussed an alternative that would control strip development between Bad Rock Canyon and Columbia Heights, an action consistent with the 1987 Flathead County Master Plan (DEIS, III-18).

RESPONSE TO COMMENTS ON DRAFT EIS

Coalition for Canyon Preservation

Memorandum (Received 2/4/93)

1. **RESPONSE:** These corrections have been made to comment (2)(A) on page 10 of your correspondence dated 12/21/93.

2. **RESPONSE:** This memorandum and the attached letter from the Flathead Regional Development Office are herein included in the comments on the Draft EIS. Mr. Herby's scoping comments as well as comments by others with similar concerns were considered before a preferred alternative for the Columbia Heights to Berne Road area was selected.

An undivided 64-foot wide four-lane road between Columbia Heights and Berne Road was initially considered before a four-lane road with a continuous median/left turn lane was selected as the preferred alternative. The primary reason for not choosing an undivided four-lane design was that transitions to and from road widenings for left turn lanes at Monte Vista Drive and at the replacement park area near Berne Road would consume nearly 1.3 of the 1.7 miles in this segment of the corridor.

If left turn lanes were provided at Monte Vista Drive and at the proposed replacement park/river access, two short areas of intervening undivided four-lane road (a 0.30 mile-long section between Columbia Heights and Monte Vista Drive and a 0.10 mile-long section between Monte Vista Drive and Berne Road) would exist in this part of the corridor. These brief and frequent transitions to and from areas with left turn lanes are undesirable from a safety standpoint and may be confusing to drivers. The paved surface width and the area disturbed by construction of a facility with isolated left turn lanes would not vary substantially from that of the preferred design for this section of the corridor.

3. **RESPONSE:** This project has been proposed for development with limited access control. The *Access Management Plan* (MDT, April 1992) indicates that partial control of access allows access at selected public roads and at private driveways identified in deeds and other legal documents. This level of access control is intended to give consideration to the movement of through oriented traffic, but at the same time, recognizes the access needs of adjacent land uses.

This level of access control requires using design features which provide for minimal conflict between traffic using the at-grade access allowed and the running speed of traffic on the through roadway. These features may include acceleration or deceleration lanes or tapers, turning lanes, special signing, or traffic signal systems.

An access control plan has been completed for this project. This plan quantified the number and location of approaches in the corridor and made recommendations for locations where approaches could be abandoned or combined. This plan will be reviewed and modified if necessary during the right-of-way acquisition stage of the project to ensure that it reflects current land use patterns.

Two large properties near the west entrance to Badrock Canyon have already been acquired within the corridor. In addition to providing the land for right-of-way and a site for developing replacement parkland and a new river access, this action ensures that incompatible land uses will not be developed on these properties. This action is consistent with the intent to control strip development as indicated in the *Flathead County Master Plan*.

A local planning initiative aimed at developing a growth management plan for the US 2 corridor is now underway. MDT and other agencies have agreed to contribute funding and/or technical assistance to Flathead County in an effort to help in this planning effort.

RESPONSE: The Draft EIS indicates on page III-26 that during 1979 and 1980 a local campaign was initiated to have US 2 between Badrock Canyon and West Glacier designated as a "scenic corridor." To date there has been no official scenic designation afforded to US 2.

4.

4

Also note that Flathead Regional Development Office supports Scenic Highway designation for Bad Rock. This important comment was ignored and not appropriately disclosed in EIS.

COALITION FOR CANYON PRESERVATION, BOX 422, HUNGRY HORSE, MT 59519
DOWNSCOPING FOR BETTER USE OF SCARCE HIGHWAY FUNDS.



Flathead Regional Development Office

723 5th Avenue East - Room 414
Kalispell, Montana 59901

July 19, 1990

Phone: (406) 752-3300 Ext. 279

CCP

Box 442
Hungry Horse, MT 59919

Re: Scoping Comments - Badrock Canyon Highway

Dear Ms. Willows:

You requested a summary of statements made by this office at the recently held Highway Department Scoping Meeting held in Columbia Falls concerning the reconstruction alternatives for Highway 2 between Columbia Heights and Hungry Horse. Senior Planner Tom Jentz attended this meeting and made oral comments that touched on five specific areas. These comments are summarized below:

1. The highway section that serves Columbia Heights should be an urban profile with curb and gutter to funnel drainage and define access points, a center turn lane to address the large number of turning lanes due to the present number of businesses along the highway, and sidewalks to address pedestrian traffic.

2. The remainder of the highway should not contain a center turn lane as this type of design encourages strip highway development. Presently, there is no development that justifies such a design feature.

3. In light of Item 2 above, the Highway Department should acquire highway access north and east of Columbia Heights to control access points on the highway and discourage future strip development, thus ensuring a longer design life span.

4. The Highway Department should explore the feasibility of a scenic highway designation for that particular stretch of roadway in Badrock Canyon. In addition, the Highway Department should emphasize features and design standards that will discourage or prohibit the spread of billboards and strip commercial/residential development along the entire stretch of highway beyond Columbia Heights.

5. Serious consideration should be given to the provision of pedestrian and bicycle traffic along this entire stretch of roadway as it is a scenic corridor, it serves as the gateway to Glacier National Park, it is the only roadway or access between Columbia Falls and the Canyon communities and Park beyond, and bicycles and pedestrians are already using it.

Providing Community Planning Assistance To:

• Flathead County • City of Columbia Falls • City of Kalispell • City of Whitefish •

This July 19, 1990 letter from Stephen F. Herbaly, Planning Director, Flathead Regional Development Office to Sharon Willows was provided as an attachment to the CCP memorandum received on February 4, 1993.

CCP
Re: Scoping Comments - Badrock Canyon Highway
July 19, 1990
Page 2

This July 19, 1990 letter from Stephen F. Herbaly, Planning Director, Flathead Regional Development Office to Sharon Willows was provided as an attachment to the CCP memorandum received on February 4, 1993.

This forms the major thrust of the comments made at the public hearing. If you have any further questions, do not hesitate to contact this office.

Sincerely,



Stephen F. Herbaly
Planning Director

TRJ/dh

cc: 9/90
FHWA(2)
MDOH
Peccia
GLAC

VI-144
12-21-92
Comment on DEIS/4(f)

**RESPONSE TO COMMENTS ON DRAFT EIS
Forest Watch - Alliance for the Wild Rockies
Erik B. Schultz (12/15/92)**

December 15, 1992

David S. Johnson, P.E.
Preconstruction Bureau
Montana Department of Transportation
2701 Prospect Ave.
Helena, MT 59620

Dear Mr. Johnson,

These are our comments on the DEIS for the proposed U.S. 2 Highway reconstruction through Badrock Canyon. We believe this document to be inadequate based on several judgments made therein without sufficient factual basis, and also due to omission of possible, but unexamined alternatives. The following is a discussion of the problems and issues we at the Alliance for the Wild Rockies feel must be addressed in an EIS before any further consideration is given to any action alternative for this proposed project.

1-2 (39) 138 Columbia Heights Hungry Horse

DEC 24 1992

redistribute

2nd page duplicate

MAIL ROUTE	Initial	Attach
30 Preconst Engr		
30 Assistant		
30 Office Mgr		
31 Safety Mgmt		
32 Road Design		
33 Environment		
34 Hydraulics		
35 Survey & Mapping		
36 Traffic Eng.		
37 Operations		
38 Consultant		
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DEC 24 1992

ASSOCIATES

Erik B. Schultz

Forest Watch

Alliance for the Wild Rockies

PO Box 8731

Missoula, MT 59807

1. **RESPONSE:** The statement on page IV-20 does appear to contradict the sentence contained on page IV-2. The text on page IV-20 describes the kind of direct impacts that sedimentation, if it occurred, could have on the local fishery. These adverse effects are not expected to occur with this project since a Storm Water Erosion Control Plan will be developed. The Plan is designed to identify appropriate locations where specific measures can be incorporated with the project to reduce erosion and prevent the release of sediments from the construction site. Adverse effects on aquatic life due to sedimentation would not be expected with the inclusion of proper erosion control practices.

The text on page IV-20 has been modified for the Final EIS to indicate that impacts on the local fishery due to sedimentation are unlikely with the implementation of measures to control erosion and sediment transport from areas disturbed by construction. The use of fill materials free of nutrients, organic matter, or other contaminants would also ensure that no adverse effects on the local fishery occur.

2. **RESPONSE:** MDT recently implemented the use of a Standard Erosion Control Work Plan which was developed to assist highway designers, and others select, design, and implement site-specific erosion control best management practices (BMPs) for highway construction projects. BMPs are physical, structural and/or managerial practices, that when used individually or in combination, prevent or reduce erosion and the release of sediment from the construction site. The intent of completing the Work Plan is to ensure compliance with the Montana Pollutant Discharge Elimination System (MPDES) regulations which require a storm water discharge permit for construction projects like this one.

The procedures outlined in the Work Plan were applied to the preliminary design for the preferred alternative. A new appendix, APPENDIX 13, has been added to the Final EIS. This appendix lists the BMPs that may be appropriate for the US 2 corridor between Columbia Heights and Hungry Horse. Ultimate selection of the most effective BMPs is at the discretion of the highway designer.

1. **Water Quality and Fisheries:** We are not convinced by the assertion that "the proposed discharge of fill in the Flathead River would not substantially change water characteristics...the use of aggregate fill would not introduce nutrients or organic materials which would change the suitability of the Flathead River system for consumption and use by aquatic organisms or humans." (ch.IV-2) This contradicts the DEIS' subsequent admission that "sedimentation caused by the erosion of disturbed areas or from constituents of fill materials entering the Flathead River could adversely affect the local fishery...sedimentation could increase silt in spawning gravels and rearing habitat, suffocate eggs or fry, and adversely affect habitat for aquatic life that is an important food source for fish." (ch.IV-20)

MDT states that "sedimentation to wetlands and the Flathead River during construction would be limited by using MDT construction practices for sediment basins and by temporarily stabilizing all exposed soil until revegetation is successful...MDT will prepare more detailed mitigation plans for the river crossing and the fill in the Flathead River and submit them with its Section 404 permit application once design plans for the road and bridge have been developed." (ch.IV-18) We feel that mere assurances that MDT mitigation measures will preclude any potential adverse effects to water quality and aquatic habitat are woefully inadequate. We request a detailed listing of all mitigation measures (intended to be submitted in the section 404 permit application) in an EIS. Only such a specific description of mitigation measures can allow the public, and MDT as well, to make informed predictions about the proposed action's potential effects on water quality and aquatic habitat.

A Storm Water Erosion Control Plan for this project must be submitted to the Montana Department of Health and Environmental Sciences Water Quality Bureau for review. The objective of the plan is to minimize erosion of disturbed lands during and after construction of the project. The Water Quality Bureau must approve the plan before construction activities can begin.

This proposed discharge of fill into the Flathead River will also require that MDT obtain a Section 404 permit from the Corps of Engineers. Previous correspondence from the Corps indicates that the agency will not issue a 404 permit on the basis of preliminary plans. An exact list of the measures to be implemented as mitigation can not be determined until this project is approved and advances to the design stage. The water quality section of Final EIS addresses various 404 considerations including mitigation measures to the level of detail possible.

A Draft 404(b)(1) Evaluation is presented in APPENDIX 14 of the Final EIS. This document was reviewed by the Corps of Engineers, Planning Division in Omaha, Nebraska and the Corps Montana Regulatory Office in Helena.

Prior to the issuance of a 404 permit, both the Corps of Engineers and the Montana Department of Fish, Wildlife & Parks Stream Protection Coordinator would be consulted during the development of design plans. Such agency reviews and the receipt of all appropriate water quality permits will ensure that the design contains measures to safeguard water quality and related resources in the project area.

II. Wildlife The obvious species of concern here is the Bald eagle, federally listed as endangered here in Montana. The proposed action "would directly affect Bald eagles due to habitat modifications by removing perch, screening, foraging, and potential nesting vegetation from the river bank in Badrock Canyon, the proposed river access site, and bridge construction area." (ch.VI-66; USFWS letter to Duane C. Lewis)

Although the USFWS issued a "no jeopardy" opinion on the proposed action's potential effect on the overall population of Bald eagles, they clearly disagreed with MDT's "not likely to adversely affect" conclusion (ch.IV-26), and the Biological Assessment's assertion that effects "are likely to be insignificant or discountable relative to local or regional populations." (ch.VI-48) A letter from University of Montana biology professor to USFWS Endangered Species Biologist Rob Hazelwood was conspicuously left out of the DEIS. This letter stressed that elimination of remaining perch and screening vegetation would render the habitat unsuitable regardless of kokanee salmon prey base improvement. (See copy enclosed) Clearly the project has the potential to eliminate suitable habitat for the local Bald eagle population, and could potentially affect migrating populations as well.

3.

RESPONSE: The letter from Mr. McClelland to Mr. Hazelwood was not included in the Draft EIS, however, it was included in the Biological Assessment, a supplemental document prepared for this project. The Biological Opinion from the USFWS (included on pages VI-63 through VI-70 of the Draft EIS) contains a quote from Mr. McClelland's letter. The USFWS wrote its Biological Opinion with full knowledge of Mr. McClelland's concerns about habitat loss.

3

We see several issues of importance relating to sustaining the population of Bald eagles in the vicinity of the project area. The removal of the narrow band of riparian vegetation between U.S. 2 and the Flathead River near Berne Memorial Park has much greater implications than merely eliminating critical screening/foraging habitat. Not only will the removal of this strip directly destroy eagle habitat, but will increase the distance at which eagles are flushed by human activity. The proposed action, along with the proposed river access site, will create an overwhelming human presence in the area, which we believe will signal the end of Bald eagles in Badrock Canyon.

We request that if an action alternative is decided upon, state-of-the-art stream protection mitigation should be implemented. The DEIS plan to cut trees and create steep slopes of riprap is not modern methodology for stream preservation. Gabions and wire containers full of rock should be used to reinforce the river bank while maintaining the critical riparian vegetation, namely cottonwood perch trees. We are opposed to any action alternatives which remove this crucial vegetation. We find the mitigation measures (listed in Ch. IV, pp. 25-26) to be especially weak and they ignore the critical issue here, which is the aforementioned strip of riparian vegetation in Badrock Canyon. None of the measures will be worth anything if there are no eagles left in the Canyon due to habitat loss.

4

4. **RESPONSE:** These issues were considered by the USFWS. Please refer to the agency's Biological Opinion.

5

5. **RESPONSE:** During informal and formal coordination with the USFWS regarding the project's effects on habitat used by bald eagles, considerable effort to identify measures that would avoid or minimize impacts to this narrow (1,200 feet long by 75 feet wide) band of riparian vegetation. The two most obvious measures to maintain this vegetation would be to shift the new road away from it or to build the road in an entirely new location.

Shifting the highway away from this vegetation could be accomplished only at the expense of Berne Memorial Park since all features in the turnout, including the spring, would be eliminated and the cliffs at both ends of the park and natural areas above the turnout would have to be excavated. Berne Memorial Park, like the habitat used by bald eagles and protected by the Endangered Species Act, is a resource protected by federal statutes. This avoidance measure was dismissed because of the impacts on Berne Memorial Park would be unacceptable and alternatives that would minimize impacts to the park exist.

The riparian habitat could also be avoided if the road were built on a new location or if a tunnel was constructed to bypass the habitat. These avoidance alternatives were eliminated from consideration since constructing an entirely new highway corridor would likely produce greater environmental impacts than expanding the existing road. Constructing a tunnel to avoid this habitat was eliminated due to the extremely high cost of the facility and the potential for disrupting the spring in Berne Memorial Park. Neither avoidance option guarantees that other habitat equally important to bald eagles or other species of concern would be unaffected.

In the absence of reasonable alternatives that totally avoid riparian vegetation and Berne Memorial Park, a "compromise" location was identified for the new road. This alignment attempts to limit the adverse impacts to both of these sensitive resources in Badrock Canyon. To minimize effects on the riparian vegetation, options like steepening fill slopes and constructing a retaining wall were developed and discussed with the USFWS during informal consultation activities.

At best, the use of these measures would produce discontinuous and extremely narrow (20-30 feet wide) stands of trees along this section of streambank near Berne Memorial Park. Investigations showed that an isolated area of vegetation (some 400 feet long by about 20-30 feet wide) could be preserved if a retaining wall were constructed. This band of vegetation would be separated by some 250 feet from the riparian vegetation located further to the east along streambank. Based on a study of additional design measures, the preferred alternative for US 2 reconstruction in Badrock Canyon was modified to include a vertical retaining wall between the new road and the river.

b. Cumulative Effects This project is similar to other projects we have reviewed in the past, in that it acknowledges negative impacts on the continued recovery of the species in question, in this case the Bald eagle. While this project, as with most others, will not jeopardize the continued existence of the *entire* population in Montana (as opposed to site-specific subpopulations), it certainly contributes to a reduction in the recovery potential of the species. We look forward to the day when a public-serving agency such as MDT will take a stand for the future success of an endangered species by not moving ahead with development alternatives that chip away at dwindling habitat. As the Montana Bald Eagle Management Plan (paraphrased in Ch. IV-25) emphasized, "even though Bald eagle populations have increased in recent years, the continued alteration and removal of suitable habitat due to human activities may affect the long-term success of recovery efforts in the state."

III. Range of Alternatives We believe several possibilities for a less intrusive action alternative were omitted from the DEIS, in addition to those previously addressed regarding the Bald eagle. These are as follows:

- 1) An Access Control Plan for rural areas (outside of Columbia Heights) is needed to control ugly strip development along US 2. The DEIS wrongly presents access control as mitigation (i.e. IV-44), then later admits an access control study hasn't been done yet (p. App.1-1). The DEIS statement at the bottom of III-18 is a blatant lie—highway agencies do have the authority to control access and control scenic easements, a "means to implement or enforce the Master Plan" (III-18).

Highway agencies have not gone far enough in acquiring private land. More private land should be acquired under the FHWA scenic enhancement program. (IV-44) In particular, the farm across the highway from the House of Mystery is up for sale. This should be acquired as a critical acquisition to protect the visual qualities of the west Canyon, and as an entrance to the Northern Continental Divide Grizzly bear ecosystem.

- 2) The range of alternatives did not consider a tunnel (approximately 1/2 mile) that would preserve Bald eagle habitat, Berne Park, the floodplain, Wild and Scenic River qualities, and the aesthetical beauty of the river area. We would like to see such an alternative proposed and fully analyzed.

6. RESPONSE: As the Biological Opinion indicates, the USFWS shares your concerns about the fragmentation of habitat and the loss of riparian vegetation. As indicated in the previous response, the preservation of this habitat could not be accomplished without causing unacceptable impacts to Berne Memorial Park.

7. RESPONSE: An access control plan for this proposed project was initially prepared in June, 1990. The text on page A1-1 was revised for the Final EIS to indicate that the document has been prepared and is on file with MDT in Helena. Due to the volatility of the real estate market in the area, the access control plan must be reviewed to reflect current ownership data prior to the construction of this project. The review may result in modifications to the recommendations contained in the plan. The purchase of access rights has not been proposed for any properties within the corridor at this time.

Zoning based on sound planning is the only effective means of controlling land use development along the highway corridor. Short of purchasing access rights from the owners of properties abutting the highway or developing a limited access facility like the interstate system, MDT has little authority to control what happens adjacent to the highway. Some aspects under which access is granted can be controlled, but state laws require that reasonable access be provided to properties adjacent to the highway. The acquisition of access rights or scenic easements requires a willing property owner. Condemnation proceedings can not be used to acquire these rights from landowners.

The statement at the bottom of page III-18 in the Draft EIS is in error and will be revised for the Final EIS to indicate that the land uses suggested in the Master Plans are implemented by the use of zoning, which is also the enforceable means for controlling land uses.

8. RESPONSE: MDT recently purchased the large parcel of land located opposite the House of Mystery and west of Berne Road.

9. RESPONSE: The text in Part II of the Draft EIS was modified for the Final EIS to include further discussion of a tunnel as an alternative for the proposed action in Badrock Canyon. Other state highway agencies were contacted to help determine the cost and design implications of such an alternative.

We expect the issues we've brought up in this letter to be given full consideration. If you have any questions about any of the issues we've identified in this letter, please don't hesitate to call or write. We request that you keep us informed of the status of this project by mailing any documents related to public participation in the decision(s) to be made.

Sincerely,



Erik B. Schultz
Alliance for the Wild Rockies

*DELS did not
disclose

RECEIVED

JUN 25 1991

ROBERT PECCIA
& ASSOCIATES

May 7, 1991

U. S. Fish and Wildlife Service
Attn: Rob Hazlewood
Endangered Species Biologist
Box 10023
Helena, MT 59626

Dear Mr. Hazlewood:

Our concern about the potential for bald eagle habitat loss in the Badrock Canyon area (Highway 2 south of Hungry Horse Montana) was first recorded in 1991 (see attached letter).

Studies of bald eagle migration and habitat use during the past 14 years have clearly documented the use of the Flathead River, including Badrock Canyon, as a major flyway and foraging area for eagles (Young 1983, McClelland P.T. - in prep.). On 4 December 1985, we counted 41 eagles between the House of Mystery and Hungry Horse Reservoir. At least 7 bald eagle roosts have been identified on the east side of Columbia Mountain. Many of the eagles from these roosts use the river corridor through Badrock Canyon; continuing roost use was documented after the kokanee collapse.

Although the recent collapse of the kokanee salmon population in Flathead Lake has resulted in fewer eagles foraging in the Badrock Canyon area, eagles continue to perch in the cottonwoods and spruce between the road and the river. Perhaps most importantly, that vegetation strip serves as screening which allows eagles and other wildlife foraging opportunities on waterfowl and shoreline carrion. The increased distance at which eagles flush from human activity when such screening is lacking is well documented (e.g., Stalmaster 1987). Much of the screening vegetation along the river in the western portion of Badrock Canyon has been removed over the years. Further removal of any vegetation along the river would exacerbate previous destruction of riparian habitat. Loss of the kokanee food base in the river, with consequent reduction of eagle-foraging opportunities, cannot be used legitimately as a rationale for vegetation removal along the river for the following reasons:

- 1) Bald eagles continue to use this area as a migration corridor even though the food base has diminished (see Spencer et al. 1991). This persistent flyway use will continue to make possible a rapid response to any future (unpredictable) increase in prey base (e.g., lake whitefish). Elimination of remaining perch and screening vegetation would render the habitat unsuitable regardless of prey base improvement.

This letter was included as an attachment to Mr. Schultz's letter of 12/15/92.

Mr. McClelland's concerns about the effects of this project on habitat used by bald eagles was considered by agency decision-makers and was part of the Biological Assessment, a supplemental document to the EIS, that was submitted to the USFWS. The Biological Opinion written by the USFWS (included on pages VI-63 through VI-70 of the Draft EIS) contains a quote from Mr. McClelland's letter. The agency wrote its Biological Opinion with the full knowledge of Mr. McClelland's concerns about habitat loss.

2) The loss of kokanee already has placed additional stress on migrating eagles (see McClelland et al. 1983 and Spencer et al. 1991). Logically, this should result in greater care for remaining and potential foraging areas, even those not currently supporting large numbers of birds.

3) Although bald eagle nesting success in Montana has shown some encouraging signs in recent years (sufficient to elicit a consideration of downlisting from endangered to threatened status), we continue to "whittle away" at remaining habitat. These whittlings are cumulative. This is a long-term concern in relation to migrating eagles as well as those that nest in the state. Habitat fragmentation and loss of riparian habitat, if not carefully regulated and limited, will in the long run make continent-wide recovery of the bald eagle impossible. It is no longer reasonable to look at each relatively small habitat change as inconsequential, particularly in riparian areas. In a wider context the Badrock Canyon issue epitomizes the new challenge as well as the heightened conflict. Roads need to provide aesthetically pleasing routes that include wildlife values, not just wide swathes to get people from point to point.

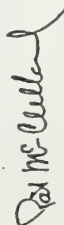
With all the concern now being expressed about wildlife mitigation costs in the South Fork of the Flathead (where the Hungry Horse Dam destroyed many miles of riparian habitat) it is essential to avoid further habitat degradation that leads to mitigation efforts, which tend to be expensive and never fully satisfactory.

In relation to sound long-term management of bald eagle habitat in the Flathead, we believe it is imperative that no more screening or perching vegetation be cut along the river in the Badrock Canyon area.

Sincerely,



B. Riley McClelland
Professor, University of Montana



Pat McClelland
Wildlife Biology Graduate Student, University of Montana

cc: HHRD, 2-14-92

This letter was included as an attachment to Mr. Schultz's letter of 12/15/92.

Mr. McClelland's concerns about the effects of this project on habitat used by bald eagles was considered by agency decision-makers and was part of the Biological Assessment, a supplemental document to the EIS, that was submitted to the USFWS. The Biological Opinion written by the USFWS (included on pages VI-63 through VI-70 of the Draft EIS) contains a quote from Mr. McClelland's letter. The agency wrote its Biological Opinion with the full knowledge of Mr. McClelland's concerns about habitat loss.

KEEP IT WILD!

NO COMPROMISE CONSERVATION

P.O. Box 1121, Whitefish, MT 59937



MASTER FILE
COPY

Montana Department of Highways
Attn.: Preconstruction
2701 Prospect
Helena, MT 59620

RE: Badrock Canyon (Hwy 2) Reconstruction Draft EIS

Dear Administrators,

Please enter into the public record these comments on the DEIS for the reconstruction of Highway 2 through Badrock Canyon between Hungry Horse and Columbia Heights, and provide us with a copy of the Final EIS when it is published.

ACCESS CONTROL PLAN NEEDED

It is amazing the access control was identified as a planning issue, yet was not dealt with otherwise at all in the DEIS. If access control is presented as mitigation, then something must be done to incorporate this into the DEIS. Such a plan is needed for scenic places such as the Canyon to control strip development, and such action is imperative in this area.

PROTECT BERNE MEMORIAL PARK

It is clear that the Highway Department has not taken a legally required effort to avoid taking public parkland, required by Section 4(f). We demand that all available road construction techniques be used to protect Berne Park, and strongly object to the "mitigation" of replacing it on the dangerous curve next to the House of Mystery, in a hot weed field. This intersection plan is in violation of AASHTO "Green Book" standards.

Berne Park is a wet, cool haven in the Canyon, an area of historical, spiritual, commercial, and environmental significance. We find it unconscionable that the Highway Department is considering blasting a highway through it for no apparent reason other than to expand its bureaucracy.

RESPONSE TO COMMENTS ON DRAFT EIS

Keep it Wild

Michael Carter (12/20/92)

December 20, 1992	
Initial	Attach
	MAIL ROUTE
	30 Preconst Eng
	30 Office Mgr
	31 Safety Mgmt
	32 Road Design
	33 Environment
	34 Hydraulics
	35 Survey & Mapping
	36 Traffic Eng.
	37 Traffic Operations
	39 Consultant Dsn.
	40 FHWA

DEC 24 1992
ROBERT PECCIA
& ASSOCIATES

1.

RESPONSE: An access control plan for this proposed reconstruction project in June, 1990. The text on page A1-1 of the Draft EIS was revised for the Final EIS to indicate that the document has been prepared and is on file with MDT in Helena.

1

Zoning based on sound planning is the only effective means of controlling land use development along the highway corridor. Short of purchasing access rights from the owners of properties abutting the highway or developing a limited access facility like the interstate system, MDT has little authority to control what happens adjacent to the highway. Some aspects under which access is granted can be controlled, but state laws require that reasonable access be provided to properties adjacent to the highway. The acquisition of access rights or scenic easements requires a willing property owner. Condemnation proceedings can not be used to acquire these rights from landowners.

2.

RESPONSE: Please review the responses to comments 4 and 27a made by Sharon Willows of the Coalition for Canyon Preservation in her 12/21/92 letter presented earlier.

3.

RESPONSE: The preparers of the EIS recognize that the Berne Memorial Park area is a pleasant place. The reasons that this project has been proposed are fully described in Section C of Part I: Purpose and Need for Action in the EIS.

SPEED DESIGN UNSAFE AND INAPPROPRIATE

The 60 mile/hour design is inconsistent with Green Book standards for a river road with mountainous characteristics. This alone denotes a fatal flaw in the DEIS.

PROTECT EAGLE PERCH TREES

The DEIS omits streambank protection measures as required by State law, MCA 87-5-501-509. I have witnessed, on several occasions, the use of the large cottonwoods planned for destruction by bald eagles, yet the DEIS fails to honestly disclose this fact. The DEIS also fails to acknowledge the primary eagle concentration site in the Canyon, and it also fails to consider the expert opinion of biologist Riley McClelland. Apparently the statutory requirements of the NEPA and the ESA do not apply in this case? We insist that protection measures be included in the FEIS, as well as the use of McClelland's work in the T&E analysis.

GRIZZLY BEAR

Another very important issue, which the Highway Department has sidestepped, is the importance of the Canyon for grizzly, a federally protected threatened species. The Canyon is the intersection of two otherwise detached, isolated recovery areas, the Whitefish Range and the Swan Range. Both are within the boundaries of the Northern Continental Divide Ecosystem; both are necessary for the recovery of the species in the NCDE; further fragmentation of the corridor between the ranges will hinder the interchange of species and genetic diversity between the two ranges, contributing to the decline of the grizzly.

The DEIS borrows heavily from the Flathead National Forest Forest Plan, but fails to consider the most recently available best scientific information, such as the Mace/Wanly South Fork Grizzly Bear Study, and many other relevant information such as that provided by premier grizzly bear researcher Charles Jonkel. Also, the base of Columbia Mountain and the Canyon are identified as MA 3, non-game wildlife management. And while Management Situation 2 may negate the issuance of a jeopardy opinion from USF&WS, this should in no way abdicate the responsibility of your agency to fulfill the statutory obligations of the ESA.

4. **RESPONSE:** Please review the response to comment 3 made by Sharon Willows of the Coalition for Canyon Preservation in her letter of 12/21/92 presented earlier.

5. **RESPONSE:** Please review the responses to comments 17, 18, and 19 made by Sharon Willows of the Coalition for Canyon Preservation in her letter of 12/21/92 presented earlier.

6. **RESPONSE:** Both the Draft EIS and the Biological Assessment identified habitat used by grizzly bears and described potential effects on grizzly bears based on the best available literature at the time the documents were prepared. Contacts with biologists familiar with the species and the project area (including Mr. Mace) were also made during the development of the Biological Assessment. Based on this information, it was concluded that the proposed action is not likely to adversely affect grizzly bears or their habitat.

The Biological Assessment was prepared and submitted to the USFWS as required by provisions of the Endangered Species Act. The agency reviewed the document and wrote its Biological Opinion which agreed with that the proposed action is not likely to affect grizzly bears or their habitat. These activities were done in full compliance with the provisions of the Endangered Species Act.

OTHER COMMENTS

As a representative of Keep It Wild! Inc., I object in the strongest of terms to the preferred expansion of the highway in Badrock Canyon. The impacts to grizzly bear, bald eagle, and all other species who use the Canyon is reasonably clear and unacceptably severe. The increased commerce and use of Highway 2 to the east will have an ominous and undisclosed impact on the resources of Glacier Park; the EIS wrongly assumes that these impacts are outside of its scope. Also, the EIS does not consider the real possibility of the presence of the sensitive Coeur d'Alene salamanders in the cliffs which are slated for destruction. In fact, no sensitive species were analyzed at all. We demand that a full analysis of impacts to sensitive species be prepared and disclosed in the FEIS.

Badrock Canyon is very important to me as an individual. When traveling between Whitefish and West Glacier to work last summer, I spent long afternoons in the Canyon at Berne Park, resting and cooling off from a hot day. I learned to rock climb more than seven years ago in the wet cliffs next to the highway. The Canyon is a part of my heritage and my history; I object strenuously to its "development."

As a conservation activist, I recognize the important ecological value of the Canyon and as the preservation of biodiversity is my life's chosen work, I object to the destruction of this place because of its effects on wildlife.

I will expect to see an appropriate response to these issues in the FEIS, as required by the NEPA.

Thank you for the opportunity to make these comments,

Sincerely,

Michael Carter

7. **RESPONSE:** Please review the response to comment 49 made by Sharon Willows of the Coalition for Canyon Preservation in her letter of 12/21/92 presented earlier.

The potential that Coeur d'Alene salamanders exist in the cliffs of Badrock Canyon was considered during the development of the EIS. Contacts were made with the Montana Natural Heritage Program and the Flathead National Forest regarding the presence of the species in Badrock Canyon because the area presents some habitat characteristics suitable for the species. Biological resource specialists reviewed lists of sensitive species prepared by each agency to determine if the species has been recorded in Badrock Canyon. These lists indicated that no surveys or inventories to identify the species in Badrock Canyon have been conducted. The Montana Natural Heritage Program indicates that the nearest location where Coeur d'Alene salamanders are known to occur is at Lake Koocanusa some 60 miles west of the project area.

Because outcrops in Badrock Canyon provides habitat with some characteristics favored by the Coeur d'Alene salamander and the existence of the species in the area is unknown, MDT contracted with the Montana Natural Heritage Program to survey the outcrops at Berne Memorial Park. The area was surveyed once in late October 1993 and on two occasions in May 1994, but no amphibians (including Coeur d'Alene salamanders) were found.

RESPONSE TO COMMENTS ON DRAFT EIS
People for Elk
Merriel Johnson (12/20/92)

Public Hearings Office
 Montana Dept. Of Transportation
 3701 Prospect Ave.
 Helena, Mt. 59620
 Dec. 20, 1992

Montana Dept. of Transportation,
 Concerning your Draft EIS of the Bad Rock Canyon Highway
 Reconstruction Proposal:

Your adverse conditions of your current Plan, are too numerous to overlook as consequences of "progress". This is an unique portion of existing, viewable Montana. It is the port of entry, to Glacier Park, and should be retained as a "defined" positive experience for all travelers, whether from within the state, the country or foreign travelers. This is one of the treasures that we have to offer to the tourist's experiences, and the opportunities in this little eco-system called Bad Rock are too numerous to be overlooked, or intentionally ignored.

1) The eagle viewing opportunities at the present are enormous in this specific area which you wish to destroy. Just this morning, I had an eagle flying overhead, while coming into town through "the Canyon." I treasure these opportunities to witness the very essence of our nation, personified in these raptors. Our visitors should not be denied this same opportunity. Enclosed is a map of the foraging area, which must be defined, and protected. Two other sighting dates are Fri. Nov. 6, 1992 at 4:30 p.m., an adult. Sat. Oct. 24, 1992, 2:30 p.m., a pair of adult Bald eagles. The economic value of eagle viewing must also be taken into consideration. People can go anywhere to experience a five-lane freeway, but very few Americans have ever seen a Bald eagle. Why was the expertise of Ms. McClelland not exhibited in the EIS? Why was this information purposely ignored?

2) Your DEIS does not address the multitude of animals who live in this area, or travel through this area. A five-lane would impair not only their movements, but their very existence. I know of a marmot that lives in the lush foliage of Berne Park. I have seen huge white tail bucks crossing at the East end of Bad Rock Canyon, just before the South Fork River, and there is a commonly known crossing of deer, elk, and bear in the immediate vicinity of your dangerous, hilltop pseudo-park turn off. This wildlife was not even taken into consideration. I don't know what kind of biologist you had investigating this issue, but you were obviously ripped off. My 4 and 5 year old daughters could have identified more animals just from there "sign" than your biologist obviously had training to discover, or observe. Did this person bother to even get out of their rig?

3) The cultural value of Bad Rock must also be taken into consideration. Over 75% of travelers come to Montana in hopes of seeing an "Indian", so maybe we ought to enhance this cultural experience for our visitors, by saving this historical railway,

1. **RESPONSE:** The potential for adversely impacting significant resources within the project area was the primary reason for preparing this EIS.
2. **RESPONSE:** The "bald eagle concentration area" identified on the attached aerial photograph would not be impacted by the proposed highway reconstruction. The area that would be disturbed by construction would generally not extend beyond the edge of the existing road nearest to the river. The proposed development of the river access would remove some 0.4 acres of riparian vegetation to allow for the construction of a boat ramp and vehicle parking areas. This impact to riparian habitat was considered by the USFWS in its Biological Opinion.
3. **RESPONSE:** The Draft EIS addresses potential impacts to all forms of wildlife on pages III-11 and III-12 and on pages IV-19 through IV-30.
4. **RESPONSE:** The cultural significance of Badrock Canyon is discussed in the responses to comments 1a and 1b made by Sharon Willows of the Coalition for Canyon Preservation in her letter of 12/21/92 presented earlier.

rather than turning it into another road cut. We own this to future generations of ALL cultures!

4) Before ANY clearing, LOGGING, of any right of way areas begin, I demand that ALL paperwork on this project has been approved at the FEDERAL Level! This current Plan has so many adverse conditions, that it was not worth the paper it was printed on, let alone the \$65,000 that you actually paid of tax dollars to put this farce together. As an American, I am appalled!

Please put this comment into the legal record. I will be sending copies to some other Powers That Be.

卷之四

Married Johnson
People For Elk
Box 306
Martin City, Mt. 59326
(406) - 387-5643

VI-156

NOT on decision - Apr. 1988

GHTS-HUNGRY HORSE

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5. **RESPONSE:** Design and location approvals must be obtained before any subsequent stages of this project can proceed.

6. RESPONSE: This was included as an attachment to Ms. Johnson's letter.

The primary area of habitat for bald eagles directly impacted by the proposed action is located opposite Berns Memorial Park. As the above response to comment 2 of your letter indicates, the area of bald eagle concentration area referenced in the attachment would not be affected by the proposed reconstruction project.

December 18, 1992

Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

MASTER FILE
COPY 1

RECEIVED
DECEMBER 1992
ROBERT PECCIA
& ASSOCIATES

Initial	Att	Date Recd. Preconst.	12-23-92
MAIL ROUTE			
30 Preconst Engr			
30 Office Mgr			
31 Safety Mgr			
32 Road Design			
33 Environment			
34 Hydraulics			
35 Survey & Mapping			
36 Traffic Eng			
37 Traffic Operations			
39 Consultant Dir.			
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Dear planners of future roadways,

I would like to call attention to a bit of historical significance about Bad Rock Canyon which was overlooked in the draft EIS for Project:F 1-2(39)138.

At the meeting in Columbia Falls on December 10, I read the following excerpt from a story, *21 Years on a Stump Ranch*, written by my grandfather, James Ridenour. His story tells about homesteading from 1915, about the fire in 1929 and in many parts, about the perils of negotiating the twisted road through Bad Rock. I am presenting it once again in written form so transcribing errors can be avoided.

We liked the wild, the untamed and untouched. A few miles away still is forest as primeval as when Columbus discovered America. When the mood is upon us and we wish to renew our contact with the primitive, half an hour in the car will bring us to isolation as solitary and beautiful and romantic as the world provides and in it we may lose ourselves, shed the cares of the day and recall those days twenty one years ago when we built our home in the wild.

Sometimes we stop in Bad Rock Canyon and walk the crooks and steps of the precarious road we used to travel or climb the half obliterated scar of the trail which winds up over the mountain side which served the pioneers of an elder day and before them was a war path for the aborigines. From a vantage point along that higher trail we watch the traffic sweep along the smooth oiled ribbon of highway below. How quiet it is! How small and faraway those cars! Then in fancy we drop back forty years and hear the shouts of men, the creak and groan of tackle and loaded wagons as laboring men and desperately straining horses struggle to bring their loads to the summit of that last steep climb and let them down on the other side with a long rope secured to the rear axle and snubbed around a stump. There are three chapters in the history of human progress carved in the wall of that old canyon in those three roadways, and the canyon itself is a fair cross section history of the making of the world.

My grandfather goes on to talk about progress, about his life being a link between ages. He said he wasn't of the pioneers that first came to Montana but was of those who form the link between then and now. He suggested, however, that his grandchildren would remember he and his wife as pioneers. Those who come behind us; they will remember us as pioneers.

RESPONSE TO COMMENTS ON DRAFT EIS

Terran Alliance
Ron Ridenour (12/18/92)

1. **RESPONSE:** The text of the Final EIS/Section 4(f) Evaluation now includes the results of a cultural resource evaluation of the "tote" road completed by Historical Research Associates (HRA) in May, 1994. HRA's evaluation was prepared by an archaeologist who established the location of the "tote" road, summarized the history and use of the road, and identified features that relate to the construction and use of the road.

Our job as stewards of this land will not be satisfied by continuing to remove our every obstacle in order to make our lives easier. Our job as stewards will only be satisfied by recognizing that which is sacred, beautiful, magic, and if you like, made by God. Bad Rock Canyon is all of these things. It's the gateway—to our learning—to our appreciation. Re-evaluate alternatives. I feel a widened two lane highway in the immediate area of the canyon is appropriate. If possible, a state-of-the-art tunnel could be most desirable in that it could accommodate four lanes of traffic. This concept would allow the cliff area of the canyon to be used totally for sight-seeing and recreation. My primary concerns are avoiding disfigurement of the cliffs, river and trees as well as limiting unaccountable strip development.

Thank you,

Ron Ridenour

Ron Ridenour



Whitefish, Montana 406-862-2387

RESPONSE: The text in Part II: Alternatives has been revised for the Final EIS to include additional discussion of a tunnel as an alternative for the proposed action in Badrock Canyon. Other state highway agencies were contacted to help determine the cost and design implications of such an alternative.

REC-7

NOV 6 - 1992 Canyon Citizen
P.O. Box 118
Helena, MT 59601
ROBERT PEGG
& ASSOCIATES

November 4, 1992

Ms Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Ave.
Helena, MT 59620

re: Project Fl-2(39)138 - Draft Environmental Impact Statement for the
reconstruction of US-2 (Columbia Heights to Hungry Horse)

Dear Ms Vinson,

This comment on the proposed highway reconstruction through the Badrock Canyon
is a revised version of the letter mailed to you by the Canyon Citizens Initiated
Zoning Group on October 2, 1992.

We, the people who live in the Canyon and drive this highway everyday, believe
that the opening of the "Bad Rock Bottleneck" will have a substantial impact on
our residential quality, by providing further impetus for both commercial and
residential development in an area that is already growing rapidly.

In an effort to help mitigate this impact, we are asking the Montana Department
of Transportation to consider assisting in the funding of a professional planner
who will work with local residents and business owners on a growth management
plan for the Canyon area. Other organizations that have indicated they would
contribute resources to this effort include: the Flathead Regional Development
Office (FRDO), the Flathead Economic Development Corporation (FEDC), the National
Park Service (NPS), and the U.S. Forest Service (USFS). The time frame for
completion of this project would be one year.

Budgetary Items

Funding Sources

	MDT	FRDO	USFS	FEDC	NPS
contracts (planner)	\$ 30,000				
travel and per diem	6,000				
phone	1,500				
supplies & materials	1,500				
miscellaneous	1,000				
tech. assistance (staff services)		3,000	2,000	2,000	
tech. assistance (survey)		2,000	5,000		
clerical support				4,000	
administrative support		1,500			
postage		500			
copying and printing					500
Totals	\$ 40,000	7,000	7,000	6,000	2,500

1

1. RESPONSE: MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.

RESPONSE TO COMMENTS ON DRAFT EIS
Canyon Citizen Initiated Zoning Group
Nancy Omholt, Chairman (11/4/92)

We are proposing that this funding be provided to the Flathead Economic Development Corporation (FEDC), an IRS tax exempt business. The CCIZ Group with the assistance of the FEDC and the Flathead Regional Development Office would recruit and hire the contract planner who would then work in the Canyon area with local residents and businesses. The FEDC would be responsible for project administration.

Need for planning in the Canyon Area

Despite the sensitive environmental resources of the area and the highly seasonal characteristic of most local businesses, we who live in the Canyon find ourselves in the midst of a tremendous growth boom. Evidence of this can be seen in the commercial strip that is spreading between Columbia Heights and West Glacier, as well as in the rapid buying and selling of land for new homes. Such development is causing Canyon communities to lose their identities as distinct commercial and residential centers. Some of the most frequently cited concerns are the undesirable changes foreseen for the Canyon areas rural lifestyle and appearance.

As the Draft EIS describes in detail, US 2 is a principal access to Glacier National Park, the Flathead National Forest, the Bob Marshall Wilderness Complex, and the Flathead Wild and Scenic River. The increasing popularity of such recreational destinations is reflected in total visitor expenditures in Flathead County which jumped from nearly \$83 million in 1988 to over \$137 million in 1991. Visitor numbers at Glacier National Park eclipsed 2 million in 1991 and may break a new record in 1992.

Visitor numbers for destination sites along US 2 are expected to continue to grow as budgets increase for such regional promotion efforts as the Flathead Visitor and Convention Association, "Glacier Country" and "The Trail of the Great Bear", and as more and more people choose to live either seasonally or permanently in this part of Montana.

Real estate sales in the Canyon area, as well as in the rest of Flathead County, are also booming. While Montana as a whole grew only 1.6 percent between 1980 and 1990, Flathead County grew by 14 percent. Two of the reasons for such growth are quality of life and land prices that are significantly below that found in much of the rest of the country. The increasing national popularity of Montana as a place to live coupled with the Canyon's proximity to Glacier National Park has brought an influx of "outside" real estate purchases in the area. As a result, land values are escalating sharply.

The more unattractive and damaging, or compromising, consequences of growth in the Canyon include: commercial sprawl along US 2 and between the existing communities, increased billboard signage, "security" fencing that impedes wildlife migration, increased air pollution from wood burning stoves, more law enforcement problems, and heavier traffic through town centers.

An important catalyst for recent growth in the Canyon are the 1987 improvements to US 2 between Hungry Horse and West Glacier. This realignment and road-widening effort changed the highway from a winding, narrow country road to a modern 2-4 lane highway. It also substantially improved winter driving conditions between the Canyon and the Flathead Valley.

As the Draft EIS points out, similar highway improvements are now scheduled to begin in the mid 1990's between Columbia Heights and Hungry Horse. This will further improve access between the Flathead Valley and Canyon destination sites, thus making it even easier for those who chose to reside in the Canyon and work in the Flathead Valley. A commute between Kalispell and Martin City, or between Whitefish and West Glacier, will be considerably safer after the narrow, icy highway through Badrock Canyon has been widened and straightened.

We believe that such improvements will provide further impetus for both commercial and residential development of an area that already has a stimulated real estate market. Unfortunately, such development will occur haphazardly unless a growth management plan for the Canyon is developed in the very near future.

A sampling of the new businesses that have sprung up since 1987 along the reconstructed portion of US 2 include a maze, a wildlife museum, a bungee jump, a wild bear park, a large rafting company/resort complex and numerous new tourist attractions in downtown Hungry Horse. In addition, in the past 3 years, Flathead County has approved at least 5 new RV parks in the Canyon area, and another has recently been submitted for preliminary plat approval. Many of these developments are occurring outside of established Canyon communities and amongst residential properties, despite a statement in the County Master Plan that "discourages the commercial development that is occurring between Columbia Falls and Glacier National Park".

The Canyon Citizen Initiated Zoning Group

In June 1992 the Canyon Citizen Initiated Zoning Group (CCIZ) was formed with the goals of enabling local citizens to initiate equitable land use planning for the Canyon area. The CCIZ Group believes that for zoning or other growth management tools to work there must be "buy in" at the local level. Unless local citizens are empowered to help decide their own future, the adversity that such processes create will most likely doom the effort.

The CCIZ Group has met every Sunday night since June 7, 1992 with the first order of business being to map existing land use for all lands in the Canyon. Plat maps were purchased from the Flathead Clerk and Records Office with funds donated by local citizens, and individuals from 7 different Canyon communities have gone door-to-door to explain the effort to their neighbors and to record what they learned. Seven different categories of land use have been identified, color coded, and drawn onto the plat maps.

The CCIZ Group will use this information, as well the results of an FEDC survey on the Future of the Canyon, as starting points in developing a growth management plan for the Canyon. It is our goal that this plan provide for economic development in keeping with the environmental amenities of the area.

We realize that zoning is but one of several possible options, or combinations of options, that may be possible for guiding growth in the Canyon area. Other options that the CCIZ Group wishes to consider include: purchase of conservation easements, land exchanges, transfer of development rights, performance zoning, architectural standards, cluster development, and other non-traditional land use management tools.

The proposed planning process

The CCIZ group realizes the enormous difficulty it faces in trying to achieve its objectives. Any consensus building process regarding the Canyon's future will be contentious, time consuming and at times discouraging. To help organize this process and to provide technical expertise, the CCIZ Group has asked the Flathead Economic Development Corporation (FEDC) to assist Canyon residents in hiring a professional land use planner to work with them. This individual would provide organizational support for leading Canyon residents through a process that:

- o identifies values to be preserved in the Canyon area
- o provides for public discussion of ideas, interests, and goals regarding the future of the Canyon,
- o develops options and alternatives for residents to consider regarding how to achieve these goals, and
- o concludes with the development of a plan for the Flathead County Planning Board and County Commissioners to consider as the basis for zoning classifications or other growth mechanisms for the Canyon Area.

Duties of the Canyon land use planner would include (1) education and meeting facilitation for participants in the planning effort, (2) recordation and distribution of accurate notes summarizing the ideas, goals and other important topics discussed at meetings, (3) technical planning assistance and, (4) preparation of a report that Canyon residents would use in future deliberations with Flathead County planning officials.

A critical aspect of this position is the staff presence it would provide for residents as they deliberate how and where they want to see the Canyon area develop. The effort will be contentious. Hence, choosing an individual who understands both the planning processes as well as local sentiments, and who can blend the two is imperative.

Role of the Flathead Economic Development Corporation

Ground work for this planning effort is also being provided by the Flathead Economic Development Corporation (FEDC). In October 1991, FEDC began meeting with some local residents and business people to discuss issues relating to the future of the Canyon area between Hungry Horse and Essex Pinnacle. At meetings in West Glacier and Hungry Horse, residents discussed the desirability of creating a local community strategy for the Canyon, one which takes into account the area's unique social, economic, and environmental needs. It was decided that before further action was taken, however, broader public input should be obtained through a general mail survey of Canyon area landowners.

The FEDC received County funding to develop and conduct this survey and it was mailed to 1657 households in February 1992. The results were made available in late Spring 1992 in a document entitled The Future of the Canyon Area 1992 Survey

Results. A summary of this survey is included as an attachment to this letter. More recently, the FEDC and Flathead National Forest have assisted the City of Columbia Falls in obtaining a small economic development grant from the USDA Forest Service. A portion of these monies will be used to conduct a survey of community attitudes and needs in the Columbia Heights to Hungry Horse section of the corridor.

Why can't Flathead County do the planning?

The Flathead County Commissioners have the authority to make planning and zoning decisions on private lands outside of the boundaries of the Counties three incorporated towns. The Commissioners are advised on planning matters by appointed planning boards, who are in turn assisted by a professional planning staff. In Flathead County, professional planning duties are assigned to the Flathead Regional Development Office (FRDO).

In 1987, pursuant to a requirement of the State Legislature, the Flathead County Commissioners adopted a County Master Plan. This plan sets forth general policy regarding development in the County and includes a series of Countywide goals and policy statements followed by a series of more specific area plans.

Enforcement of the goals and policy statements in the Master Plan occurs primarily through the mechanism of zoning. To date, despite rapid increases in population, land splits and building permits, little zoning has occurred outside of the counties incorporated communities and a few scattered zoning districts.

The existing zoned areas of the county do provide land use predictability and control over changes within them. Unfortunately however, these piecemeal solutions have pushed unwanted development and unplanned growth into those parts of the county which remain unzoned, including the Canyon Area.

In late 1991 the Flathead County Board of Commissioners announced their decision to place county-wide zoning into effect as soon as possible. Zoning was to be based on the broad goals outlined in County Master Plan, and would be preceded by a set of interim zoning standards. The deadline for implementing the interim zoning standards has been repeatedly postponed however as the FRDO has become further and further bogged down by development demands and zoning complexities. As an alternative, the FRDO has begun seriously considering the use of consultants, paid for by outside funding, to facilitate the planning process.

A primary reason for this change in approaches is the chronic understaffing within the FRDO. Flathead city and county governments face severe financial constraints that are compounded by a voter initiated tax-freeze that was enacted in 1986. The rapidly escalating demand for subdivision reviews, shoreline permits, floodplain reviews, zone changes, text amendments, and similar services has nearly outstripped the FRDO staff's ability to respond effectively. The capability to handle more long-range activities (such as County Master Plan updates), time intensive projects (preparing new land use maps and zoning regulations, for instance), and general public education and community consensus building programs is simply not adequate.

The Canyon area is but one of many "hot spots" in Flathead County's struggle to

implement county-wide zoning. Major battles are also being fought over the zoning of agricultural land in the Flathead Valley, over lakeshore zoning, and over zoning along other, more heavily used, highways in the County. With its low population density and its preponderance of federally owned land, the Canyon has not competed well in the past for the use of limited FEDO staff resources. Furthermore, bad feelings towards the larger communities in the Flathead area exist among many Canyon residents. Many feel that residents of the Canyon are not given equal consideration when it comes to such issues as those involving schools, bank loans, or law enforcement, etc.

Conclusion

The Canyon is at a pivotal point in time if it is to develop realistic alternatives to haphazard growth; alternatives that foster healthy communities and protect private land values. These factors, plus the desire to engage a planner who predominantly works for local Canyon residents are the reasons why the CCIZ Group is seeking outside funding to help meet its goals.

Recognizing that earlier planning efforts in the Canyon failed in part because Flathead Regional Development Office was unable to provide sufficient staff support, the CCIZ Group wishes to assist County government by assuming the responsibility for developing a consensus growth management plan for the Canyon area ourselves.

Lastly, I would like to take this opportunity to express the CCIZ Group's appreciation for MDT's efforts to acquire landholdings in and around Badrock Canyon as a means of controlling incompatible land use. I also want to thank MDT for its earlier efforts to enhance the scenic qualities of the Canyon area by purchasing several scenic easements as a part of the mitigation process for reconstruction of US 2 from Hungry Horse to West Glacier.

We look forward to your consideration of this proposal and to discussing it with you in the very near future. Please contact either myself at 387-3331 or Carol Daly of FEDC at 756-8348 as questions arise.

Sincerely,


Nancy Ombolt, Chairman
Canyon Citizen Initiated Zoning Group

enclosures: survey summary and description of the FEDC

cc: Flathead Economic Development Corporation

NOV 12 1992

CANYON CITIZEN INITIATED ZONING GROUP
P O Box 118
Martin City, MT 59926

November 11, 1992

Ms Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
MONTANA DEPARTMENT OF TRANSPORTATION
2701 Prospect Ave
Helena, MT 59620

RE: Project FL-2(39)138 - Draft Environmental Impact Statement for the reconstruction of US-2 (Columbia Heights to Hungry Horse)

Dear Ms Vinson,

As a follow up to our November 4th comment on the proposed highway reconstruction through Badrock Canyon, I am sending signatures in support of our request for funding to hire a professional land use planner for the Canyon Area.

We will continue to collect support signatures and forward them as received, with a copy of this letter.

Thanks for your help!

Best regards,

Nancy C. Omhoit
Nancy C. Omhoit, Chairman

Date Recd.	Preconst.	Initial	Attach
	☒	30 Preconst Engr	☒
	☒	30 Assistant	☒
	☒	30 Office Mgmt	☒
	☒	31 Safety Mgmt	☒
	☒	32 Road Design	☒
	☒	33 Environment	☒
	☒	34 Hydraulics	☒
	☒	35 Survey & Mapping	☒
	☒	36 Traffic Eng.	☒
	☒	37 Traffic Operations	☒
	☒	39 Consultant Dsn.	☒
	☒	T.T. Jackson	☒
	☒	H.W.A.	☒
	☒	S. Lloyd	☒

~~✓~~ ~~2PA~~ ✓ Bhangia

MASTER FILE
COPY

cc: H. L. Larson
D. S. Johnson
Jim Weaver

1. **RESPONSE:** MDT acknowledges the receipt of the petitions supporting the request to MDT for funding a professional land use planner for the US 2 corridor.

—

7

WE THE UNDERSIGNED, SUPPORT THE CANYON CITIZEN INITIATED ZONING GROUP'S REQUEST FOR FUNDING TO HIRE A PROFESSIONAL LAND USE PLANNER FOR THE CANYON AREA.

Signature	Address
James L. Furst	P.O. Box 282, West Glacier, MT
Leo Marshall	P.O. Box 343, West Glacier, MT 59936
Carl H. Key	P.O. Box 52, West Glacier, MT 59936
Richard K. Riel	P.O. Box 313, West Glacier, MT 59936
Brayley Thompson	195 N. Ridgely Rd., Kalispell, MT 59901
Mike Vade	383 Grand Glacier, MT 59936
Don Wadwig	P.O. Box 267, West Glacier, MT 59936
Don Wadwig	Box 267, W. Glacier, MT 59936
Don Wadwig	Box 188, W. Glacier, MT 59936
Mike Wadwig	Box 504, W. Glacier, MT 59936
Don Wadwig	Box 356, W. Glacier, MT 59936
Don Wadwig	Box 386, W. Glacier, MT 59936
Don Wadwig	Box 274, West Glacier, MT 59936
Diana Miller	Box 253, W. Glacier, MT 59936
Wadwig John	Box 216, Comm, MT 59913
Wadwig John	Box 356, W. Glacier, MT 59936
Wadwig John	Box 1404, Columbia Falls, MT 59912
Wadwig John	P.O. Box 142, Comm, MT 59913
Wadwig John	P.O. Box 281, West Glacier, MT 59936
Wadwig John	P.O. Box 204, W. Glacier, MT 59936
Wadwig John	P.O. Box 235, W. Glacier, MT 59936
Wadwig John	P.O. Box 241, West Glacier, MT 59936
Wadwig John	P.O. Box 278, West Glacier, MT 59936
Wadwig John	P.O. Box 412, West Glacier, MT 59936
Wadwig John	General Delivery, West Glacier, MT 59936
Wadwig John	P.O. Box 414, West Glacier, MT 59936
Wadwig John	P.O. Box 413, W. Glacier, MT 59936
Wadwig John	Box 142, W. Glacier, MT 59936
Wadwig John	Box 508, W. Glacier, MT 59936
Wadwig John	P.O. Box 13018, Comm, MT 59913-0018
Wadwig John	P.O. Box 1404, Comm, MT 59913-0014
Wadwig John	P.O. Box 150, W. Glacier, MT 59936

WE THE UNDERSIGNED, SUPPORT THE CANYON CITIZEN INITIATED ZONING GROUP'S REQUEST FOR FUNDING TO HIRE A PROFESSIONAL LAND USE PLANNER FOR THE CANYON AREA.

[illegible]

WE THE UNDERSIGNED, SUPPORT THE CANYON CITIZEN INITIATED ZONING GROUP'S REQUEST FOR FUNDING TO HIRE A PROFESSIONAL LAND USE PLANNER FOR THE CANYON AREA.

VI-165



RECEIVED

OCT 27 1992

THE FLATHEAD ECONOMIC DEVELOPMENT CORPORATION

777 GRANDVIEW DRIVE - KALISPELL, MONTANA 59901 - (406) 756-4548 FAX: (406) 756-3815

RESPONSE TO COMMENTS ON DRAFT EIS
Flathead Economic Development Corporation
Carol Daly, Executive Director (10/23/92)

RECEIVED

October 23, 1992

Ms. Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

NOV 6 - 1992

ROBERT PECCIA
& ASSOCIATES

RE: Columbia Heights - Hungry Horse
DEIS -- Project F1-2(39) 138

Dear Ms. Vinson:

The Flathead Economic Development Corporation (FEDC) has reviewed the Draft Environmental Impact Statement for the reconstruction of U.S. Highway 2 from Columbia Heights to Hungry Horse. Based on the many comments that we received about that section of highway on a February, 1992, landowner survey of the Hungry Horse to Essex area, we are convinced that the project area highway is in need of reconstruction to improve traveler safety.

As a result of the survey and our other work with the Canyon communities (Hungry Horse, Martin City, Coram, West Glacier, and Essex), however, we believe that the reconstruction proposed will have direct and significant economic and social impacts on those communities. Those impacts are not included in or addressed by the DEIS, and we suggest that the final EIS be amended to consider them.

Further, we strongly support the mitigation proposal drafted by the Canyon Citizens Initiated Zoning group that would provide for planning assistance to the impacted communities prior to the construction to enable them adequately to prepare for and deal with the changes that are likely to occur. FEDC, for its part, stands ready to assist the Canyon communities and MDT in that effort in whatever way may be most appropriate.

A more complete explanation of our concerns, as well as documentation of the data sources we have used, is enclosed for your consideration. Meanwhile, if you have any questions or need further information, please don't hesitate to call.

Sincerely,

Carol Daly
Carol Daly
Executive Director

Date	Info	Recd.	Preconst.	10-23-92
MAIL ROUTE				
30	Preconst Eng			
30	Assistant			
30	Office Mgr			
31	Safety Mgmt.			
32	Road Design			
33	Environment			
34	Hydraulics			
35	Survey & Mapping			
36	Traffic Eng.			
37	Traffic Operations			
39	Consultant Den.			
<i>RPA</i> <i>Harry Bryde</i>				

1. RESPONSE: Safety improvements are one of the needs for the proposed action identified in Part I of the EIS.

MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.

BACKGROUND INFORMATION

Supporting October 22, 1992, Letter from
Flathead Economic Development Corporation
Re: Columbia Heights-Hungry Horse DEIS, Project #1-2(39) 138

In the Summary section of the Draft Environmental Impact Statement, the first sentence on page S-3 (under the heading "Tradeoffs Between Build Alternatives and No-Action") states, "Reconstructing the highway and improving access could stimulate additional development in the corridor." No mention is made of the stimulation of additional residential or commercial development in the area just east of the project corridor, the Hungry Horse - Essex area.

Farther down the page, the first "Beneficial Impact" listed under "Major Environmental Impacts" is "Improved operations and increased capacity to accommodate projected increases in traffic volumes over the next 20 years." (There is, however, no breakout indicating how much of this increase will be due to "local" or commuter traffic, and how much would be tourism related. We assume that the method used to make the projection, being based on historical volumes, does not take into account the increase in local/commuter traffic that may well result from highway improvements.)

Then, on Page S-4, under "Adverse Impacts", the third-from-the-last impact listed is "Possible encouragement of additional development in corridor." The paragraph immediately following the listing of adverse impacts begins, "Of these potential adverse impacts, the loss of bald eagle habitat, the impacts to Berne Memorial Park, and the effects of encroachment on the main stem of the Flathead River are judged to be the major impacts."

It is the belief of the Flathead Economic Development Corporation (FEDC) that not only will encouragement of additional development in the corridor constitute a major impact, but also that there will be another, probably even more significant, impact which is not addressed at all in the DEIS -- the additional development (and traffic) which almost certainly will occur in the Hungry Horse to Essex/Pinnacle area as a result of the elimination of the Bad Rock Canyon highway "bottleneck" and the improvement of traveling conditions on that section of the highway.

Indeed, in Part I(C) (7) (Economic Development), page I-13, the DEIS acknowledges, "Some existing businesses have expanded and several new businesses have located along US 2 between Hungry Horse and West Glacier since previous improvements on the route were completed." It does not discuss, however, the increase in residences in the area since the improvements, or the increased commuter or other non-tourism-related traffic generated.

On page I-18, when discussing "Land Use and Transportation Planning for the Corridor", the DEIS authors correctly state that

2

2. **RESPONSE:** The item referenced on page S-3 of the Draft EIS has been revised for the Final EIS to read:

Reconstructing the highway and improving access could contribute to additional development in the corridor and at other locations in Flathead County east of Hungry Horse.

3. **RESPONSE:** The method of least squares, a form of regression analysis, was used to project future traffic volumes for the corridor. This analysis method uses historical traffic volume data recorded at the permanent traffic counter located in the project corridor to identify a trend line that best describes the growth in traffic for the period examined. Future traffic volumes at the permanent count location can be estimated based on this trend line. Values representing the annual average daily traffic (AADT) volumes were used in the analysis. The AADT value considers all traffic recorded at the permanent counter, including local/commuter traffic and through traffic.

Figure 4 in the Draft EIS provides an indication of the magnitude of tourist-related traffic in this corridor. This figure shows monthly variations in traffic as compared to the AADT volumes in 1986 and 1990. The figure illustrates the influence of tourist traffic since it shows that the average traffic volumes for the months of May through October range from 100% to almost 200% of the AADT. Conversely, average monthly traffic volumes for other months of the year seldom exceed 75% of the AADT.

Obtaining accurate information about trip purposes (local/commuter, tourist, interstate commercial haulers, etc.) on US 2 could be determined only by establishing cordon lines where motorists are stopped and interviewed during representative summer and winter sample periods.

4. **RESPONSE:** MDT acknowledges that improvements to US 2 may contribute to additional development in this portion of Flathead County. However, the growth in the area between Hungry Horse and West Glacier can not be strictly attributed to the improvement of US 2.

The presence of Glacier National Park, the extensive promotion of the Flathead-Glacier region as a tourist destination, the influx of new residents to the county, and developers responding to economic opportunities created by an expanding local population base and high numbers of tourists are also factors that are contributing to continued development along this highway corridor. These factors, coupled with limited land use controls, are likely to be more responsible for the recent development between Hungry Horse and West Glacier than the reconstruction of US 2. The portion of this growth that can be attributed directly to previous improvements to this section of US 2 can not be determined.

the Columbia Falls Planning Jurisdiction Master Plan and the Flathead County Master Plan (which includes, among others, the Hungry Horse to Essex/Pinnacle planning areas) include policy statements that discourage additional strip development and, in the case of the County Master Plan, specifically oppose additional development along US 2.

In the following section, "Zoning and Land Use Controls" the DEIS fails to note that the Flathead County Board of Commissioners in the Fall of 1991 directed the Flathead Regional Development Office (FRDO) to begin the process to zone the balance of Flathead County outside existing zoning districts. Presently the Commissioners, the County Planning Board, FRDO, and numerous individuals and community groups (including FEDC) are working together in a process that is expected to result in the revision of the Flathead County Master Plan and the creation and implementation of land use regulations for the entire County within the next 12 to 24 months.

To assist this process, FEDC approximately one year ago began working with the "Canyon" communities to help them identify and deal with issues relating to future community and economic development (or non-development) in the area from Hungry Horse to Essex/Pinnacle. A survey was mailed in February, 1992, to each household in which it could be determined that at least one person owned a piece of property in the Canyon area (1657 households). Twenty-two percent (361) of the surveys mailed were completed and returned through March 25, 1992.

The importance of Highway 2 to that area can be judged by the response generated by one survey question, "what do you consider to be the most important improvements in your community in the past five years?" Fifty-one percent (185) of the landowners cited improvements in highways or roads (many specifically mentioning Highway 2). In contrast, the next "most important improvement" (new schools) was picked by only 80 people, 22% of the landowners.

Improving the Columbia Heights to Hungry Horse highway would please many Canyon landowners. When asked what they liked least about living in the area, 11.6% (42) mentioned poor driving conditions. Problems included:

"Bad Rock Canyon in the winter and summer"

"Hungry Horse thru Columbia Heights is a pitiful excuse for a highway today. It's a wonder more aren't killed in the traffic."

"Narrow highway through Bad Rock Canyon"

"Driving thru the Canyon in bad weather"

"Driving the highway between Hungry Horse and Columbia

3

5

5. **RESPONSE:** The text of the Final EIS was modified to indicate that the Flathead County Board of Commissioners directed the Flathead Regional Development Office to begin the process to implement zoning for those portions of the county that lie outside existing Zoning Districts. The Final EIS also notes that the County Commissioners, the County Planning Board, the Flathead Regional Development Office, community groups, and numerous individuals are participating in this process.

6

6. **RESPONSE:** The results of the *Future of the Canyon Survey* were reviewed by the preparers of the EIS.

Heights. It is a narrow, dangerous road."

Certainly the proposed US 2 improvements would make living in, working in, or visiting the Canyon area more attractive and less hazardous.

On the other hand, the improved access to the Canyon provided by past road improvements has created other problems. Increased traffic and crowding (particularly in the summer) were "least liked" by 11.3% (41 landowners). Among the factors they cited:

"Living in a tourist corridor"

"Increased traffic; crazy drivers"

"I hate the increase in traffic during the tourist season"

"Heavy truck traffic"

"The struggle with heavily traveled roads and city streets in the summer"

The survey revealed little desire for accelerated economic growth in the Canyon area. Thirty-eight percent of landowners indicated they would like to see economic growth continue "at the present rate"; 21.6% said "at a slower rate"; and 12.2% said "not at all." Only 19.9% of respondents expressed a desire to see a faster rate of economic growth in the area.

The Canyon area characteristics "most liked" by residents were -- almost universally -- the small town atmosphere, privacy, and the closeness to Nature. Some representative comments:

"Rural setting; low population"

"Beauty, lower population"

"Serenity, privacy"

"Isolation from the main Valley community"

"Seclusion, low traffic"

"Quiet, close to the wilderness; close knit communities"

"It's quiet, peaceful. Not all the noise and traffic"

"Less people"

"Quiet area out of rat race"

"High (but highly threatened!) quality of life"

There appears to be no doubt, given the information presented in the DEIS, that the proposed Columbia Heights to Hungry Horse highway improvement would significantly impact the Hungry Horse to Essex/Pinnacle area.

In Part IV(D)4("Economic Impacts"), page IV-38, the second paragraph under "Indirect Impacts" states:

Reconstruction of US 2 would improve the safety and reduce the time required to travel between Columbia Heights, Hungry Horse, Glacier Park, and other Flathead County population centers. These improvements may increase the willingness of area residents and tourists to commute to the cities for jobs, shopping, entertainment and other purposes. Businesses in the county's population centers would indirectly benefit from this increase in commerce.

What is left unsaid is that not only will existing residents become more willing to commute from the Canyon area to the main Valley, but more people will be encouraged to relocate from the main Valley to the quiet, remote small communities of the Canyon, where they too will expect to enjoy the peace, quiet, and uncrowded conditions that existing residents value -- while still being able to commute easily to jobs in the main Valley.

Thus, in Table 15, Part IV, section 14 ("Social Impacts"), where all alternatives are shown to have "no" environmental impact on "neighborhoods/community cohesion", a strong case can be made that there will in fact be a significant impact on the neighborhoods and communities of the Canyon.

In addition, there is some likelihood that disadvantaged populations will be adversely affected by the reconstruction activity. 1990 Census figures show (Table 9, Summary Population and Housing Characteristics) that the South Fork Division (which includes the Canyon area) has the lowest valued housing units in Flathead County, with 55.7% of owner-occupied units valued at less than \$50,000, compared with 27.8% in the County as a whole. Similarly, 71.9% of South Fork Division renter-occupied units have monthly rents of less than \$250, compared with 40.7% for the County as a whole (Table 11, Summary Population and Housing Characteristics).

In the South Fork Division, 29.8% of all persons are in a poverty status, compared with 14.2% for the County as a whole (Table 9, Summary Social, Economic, and Housing Characteristics). The median household income in the Division is \$16,932, the lowest of any Division in Flathead County and it is only 70.2% of the average countywide household income figure.

7. **RESPONSE:** MDT acknowledges that the proposed action may have an effect on this area. However, there are no clear guidelines available for determining what the extent of such impacts will be in or out of the project corridor.

8. **RESPONSE:** The "no" indication in Table 15 regarding neighborhoods/community cohesion refers to the fact that this project would not split existing residential areas, isolate portions of residential areas, or separate residents from community facilities.

9. **RESPONSE:** Information on population and housing characteristics for residents of the Badrock-Columbia Heights and South Fork Divisions from the 1990 Census was incorporated into the Final EIS.

10. **RESPONSE:** Information on income and poverty levels for residents of the Badrock-Columbia Heights and South Fork Divisions from the 1990 Census has been incorporated into the Final EIS.

**RESPONSES TO COMMENTS ON DRAFT EIS
Flathead County Board of Commissioners (12/17/92)**

800 SOUTH MAIN STREET

KALISPELL, MONTANA 59901-

உள்ளே

DEC 24 1992

December 4, 1992

DEC 9 1964

Ms. Edrie Vinson, Chief
Environmental and Hazardous Waste
Montana Department of Transportation
2701 Prospect
Helena, MT 59620

Re: Support for Proposed Mitigation on Columbia Heights to Hungry Horse, EIS, Project: 1-2(39) 138.

Ms. Vinson:

As you are aware the Flathead County Board of Commissioners met with you and other members of the Department of Transportation on December 10, 1992 to discuss the above mentioned project. The Board passed a unanimous endorsement of the Canyon Citizens Initiated Zoning Committee's suggestion that planning assistance be provided to the County for one of the mitigation strategies that the Department implement for this project.

This letter is to confirm that support and to assure the Department that if the funds are provided to the County that Flathead County will manage the project in compliance with all State and Federal requirements regarding consultant selection and contract administration.

It is the County's understanding that this project represents a strategy to address the concerns of the National Environmental Policy Act (NEPA) in a comprehensive and coordinated manner. The Draft EIS for the Highway Project identifies impacts associated with the construction that can effectively be dealt with by a detailed land planning effort. In this way long term and cumulative effects of the project on the natural, historic, and cultural environment can be addressed in a cooperative environment with significant inter-agency coordination.

The resulting document from this joint planning process will provide the policies in support of local regulatory strategies to protect and enhance the natural and cultural resources in the area affected by the project.

- 1. RESPONSE:** MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.

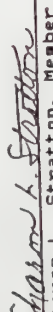
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Ms. Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
Re: Support for Proposed Mitigation on Columbia Heights to
Hungry Horse, EIS, Project: 1-2(39) 138
December 17, 1992
Page 2

If you have any questions regarding the County's position contact
the Commissioner's office in Kalispell.

Sincerely,


Howard W. Gipe, Chairman


Sharon L. Stratton, Member


William R. Hedstrom, Member

FCBC/SFH/dh
C: Flathead County Attorney's Office
Flathead Regional Development Office
Canyon Citizens Initiated Zoning Committee
Flathead Economic Development Corporation
Glacier National Park
Flathead National Forest, Hungry Horse District



The Big Sky Country

D. S. Johnson

MONTANA HOUSE OF REPRESENTATIVES

REPRESENTATIVE DAVE WANZENRIED 22 December 1992

HOUSE DISTRICT 7

HELENA ADDRESS:

CAPITOL STATION

HELENA, MONTANA 59620

(406) 444-4800

HOME ADDRESS:

3330 JWE EAST

KAUSPELL, MONTANA 59001

(406) 724-2287

DEC 24 1992

Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect
Helena, Montana 59620

Dear Ms. Vinson: 1-2(39)138

ROBERT PECIA & ASSOCIATES
DEC 28 1992

I am writing to encourage support for funding of the suggestion of the Canyon Citizens Initiated Zoning Committee that planning assistance to the County serve as one component of the mitigation strategy that the Department of Transportation implements in conjunction with the planning of U.S. Highway 2 from the Columbia Heights area to Hungry Horse.

It is very clear that the reconstruction of this section of highway will in one way or another directly affect natural, historic and cultural environments both along the right-of-way, as well as between Hungry Horse and West Glacier. It seems clear that the new highway will serve as a "conduit of change" and it is essential that we assess the degree and extent of those changes. In this way we might be better able to protect the natural and cultural resources in the area.

The new highway funding authorization encourages and requires cooperation and coordination between agencies and levels of government. The Canyon Zoning Committee's proposal should be funded in the spirit of that act and in the interest of protecting a culturally, historically and environmentally significant area.

Your approval of the Committee's proposal is encouraged.

Regards,

Dave Wanzenried

Dave Wanzenried

RESPONSES TO COMMENTS ON DRAFT EIS
Representative Dave Wanzenried (12/22/92)

1. RESPONSE: MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.

Date Recd.	Preconst.	FILE 12-24-92
Act	Info	MAIL ROOM
COMMITTEES:		
ECONOMICS & EMPLOYMENT		
EDUCATION		
ENERGY & ENVIRONMENT		
HEALTH & HUMAN SERVICES		
INDUSTRY & COMMERCE		
LABOR & EMPLOYMENT		
LEGISLATION		
NATURAL RESOURCES		
TRANSPORTATION		
TAXATION		
OFFICE MGR		
31 Safety Mgmt.		
32 Road Design		
33 Environment		
34 Hydraulics		
35 Survey & Mapping		
36 Traffic Eng.		
37 Traffic Operations		
39 Consultant Den.		
E.H.W.A.		
Legal		
L.S. Johnson		
D. S. Johnson		
L. Bradley		



United States Department of the Interior

NATIONAL PARK SERVICE
GLACIER NATIONAL PARK
WEST GLACIER, MONTANA 59936
(406) 886-5441
FAX: (406) 886-5381

IN REPLY REFER TO:

L3217

November 6, 1992

Ms. Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, Montana 59620

Re: Columbia Heights - Hungry Horse DEIS, Project FI-2 (39) 138

Dear Ms. Vinson:

Glacier National Park supports the request for planning funds from the Canyon Citizen Initiated Zoning Group (CCIZ). The hiring of a professional planner to work with local residents and business owners is a creative and badly needed form of mitigation for the proposed reconstruction of US Highway 2 through Badrock Canyon.

US Highway 2 is the most heavily traveled access route to Glacier National Park. It is one of the most beautiful stretches of highway in Montana and provides visitors not only with access to magnificent wildland resources but also with an opportunity to experience these areas from one's car window.

Under existing conditions, highway strip and other land development along this corridor is occurring in the absence of any growth management plan. As a result, important wildlife travel routes are being impaired, demands for public services are being stressed, and the area's scenic beauty is being compromised. While we understand that the planning process will be contentious and difficult, it is hoped that such an effort will yield recommendations regarding where and how development should be encouraged or discouraged so as to best maintain the natural amenities of this area.

We find the CCIZ group to be composed of earnest citizens who have the best interests of Canyon residents in mind. We have pledged technical assistance to the effort should it be asked for, and look forward to being one of a large group of interested parties who will participate in this planning process.

Again, I urge the Montana Department of Transportation to provide funding for the Canyon Citizen Initiated Zoning Group's proposal.

Sincerely,

H. Gilbert Lusk
H. Gilbert Lusk
Superintendent



RECEIVED
NOV 10 1992
ROBERT PECCIA
& ASSOCIATES

RESPONSE TO COMMENTS ON DRAFT EIS
U.S. Department of the Interior, National Park Service
Glacier National Park
H. Gilbert Lusk, Superintendent (11/6/92)

1. RESPONSE: MDT has agreed to participate with the National Park Service, the U.S. Forest Service, the Flathead Economic Development Corporation, Flathead County, and the Canyon Citizen Initiated Zoning Group in the development of this planning effort.

1

Date Recd. Preconst. 11-9-92	
Act	Info
	MAIL ROUTE
	30 Preconst Engr
	30 Assistant
	30 Office Mgr
	31 Safety Mgmt
	32 Road Design
	33 Environment
	34 Hydraulics
	35 Survey & Mapping
	36 Traffic Eng.
	37 Traffic Operations
	39 Consultant Dsn.
	T.T. Weaver
	Legal
	RPA
	Deputy Bragyle-Klop

Flathead Regional Development Office

723 5th Avenue East - Room 414
Kalispell, Montana 59901

November 13, 1992

Phone: (406) 752-5300 Ext. 279

Ms. Edrie Vinson
Environmental and Hazardous Waste Bureau
MT Dept Transportation
2701 Prospect Avenue
Helena, MT 59620

Re: Draft Environmental Impact Statement for the
Reconstruction of U.S. 2 (Columbia Heights to Hungry Horse)

Dear Edrie:

This letter is to endorse and support the request from the Canyon Citizens Initiated Zoning Group (CCIZ) for planning assistance. Their letter outlines the challenge of future planning in the Flathead valley from a citizen's perspective.

The reconstruction of the highway through the Bad Rock Canyon will in effect remove a bottle neck that tends to limit traffic movement through the Canyon. This existing bottle neck by its existence tends to limit potential and possibly adverse development in the area. For the discussion here, adverse development can be defined in relation to the existing Flathead County/City of Columbia Falls City/County and Flathead County Master Plans. These existing policy documents are in opposition to strip commercial, industrial or residential developments in unsuitable areas away from developed community service centers.

In the proposed draft of the EIS on page S-5 under the heading Adverse Impacts of the Project, a statement is made regarding the "[p]ossible encouragement of additional development in the corridor" which recognizes the issue but the possibility is not seen as a major impact. From the planning perspective of Flathead County this is a serious problem. With the proposed funding this issue can be positively addressed in a timely manner.

Providing Community Planning Assistance To:
Bryce
RPA
Loyal
39 Consultant
37 Traffic Eng
36 Traffic Eng
35 Survey & A
34 Hydraulics
33 Environment
32 Road Desig
31 Safety Mgr
30 Office Mgr
30 Assistant
30 Preconst E
11-17-92
MAIL ROOM
Reed, Frecon

RESPONSE TO COMMENTS ON DRAFT EIS
Flathead Regional Development Office
Stephen F. Herbaly, Planning Director (11/13/92)

RECEIVED
NOV 18 1992
ROBERT PECCIA
ASSOCIATES

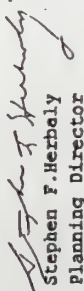
1. RESPONSE: MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.

Ms Edrie Vinson
November 13, 1992
Page 2

By adopting this approach, planning mitigation for the Canyon, the project can not only address improved safety and design of the Bad Rock corridor, but also fully address the economic, cultural and recreational qualities of the area and the effect that the completion of the reconstruction will have on them.

Our office appreciates the opportunity to comment on the draft and speak in support for the CCIZ proposal. We have a separate set of comments which address the technical aspects of the EIS under a separate letter addressed to Davis S. Johnson a copy of which is attached.

Sincerely,


Stephen F. Herbaly
Planning Director

SPH/am
enclosure: Johnson Letter

c: County Commissioners
County Attorney
County Planning Board
CCIZ/ Nancy Omholt
David Johnson MTDOT
Dale Paulson Federal Highway Admin.
Gil Lusk GNP
Al Christopherson USFSHHD

2. RESPONSE: Responses to Mr. Herbaly's comments on the Draft EIS are addressed in the section of this document containing agency comments.



RECEIVED

DEC 8 1992
Flathead Land Trust
P.O. Box 1913, Kalispell, Montana 59903-1913
406-752-2665 Home

ROBERT PECCIA
& ASSOCIATES

DEC 3 1992

DEC - 3 1992

December 2, 1992

Ms. Edrie Vinson, Chief
Environmental and Hazardous
Waste Bureau
Montana Dept. of Transportation
2701 Prospect Ave.
Helena, MT 59620

Re: Columbia Heights - Hungry Horse DEIS,
Project F1-2 (39) 138

Dear Ms. Vinson:

Please be assured that the Flathead Land Trust is very supportive of the funding request made by the Canyon Citizen Initiated Zoning Group (CCIZG) to allow them to hire a professional planner.

The pressures for development threatening the open space, scenic and wildlife values along U.S. Highway 2 from Columbia Heights to the entrance to Glacier National Park at West Glacier are increasing at an alarming rate. Solutions are hard to come by. The CCIZG presents a wonderful opportunity to protect some of the special values within the Canyon -- Glacier National Park's front porch.

Undoubtedly, completing reconstruction of Highway 2 through Badrock Canyon will exacerbate development pressures along the route to the east toward West Glacier. The Flathead Land Trust believes that funding for a professional planner for the CCIZG would be an excellent place in which to invest mitigation monies to address and plan for the inevitable growth.

Moreover, we at the Land Trust believe strongly in private sector conservation and planning efforts. The nature of the Canyon is such that if success is to be achieved, the role of private sector organizations such as the CCIZG and the Flathead Land Trust

RESPONSE TO COMMENTS ON DRAFT EIS
Flathead Land Trust
Donald R. Murray, President (12/2/92)

MASTER FILE
COPY

cc: D. S. Johnson
Jim Wilson
Andrea Stroh

Date Recd.	406-752-8293 Office
Re: /	MAIL ROUTE
12-4-92	
30 Preconst Eng	
31 Safety Mgmt	
32 Road Design	
33 Environment	
34 Hydrology	
35 Survey & Mapping	
36 Traffic Eng.	
37 Traffic Operations	
38 Consultant Data	
39 Design	
40 EIR/EA	
41 Final EIS	
42 Final EIS	
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50 Final EIS	

1.

RESPONSE: MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.

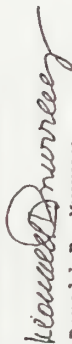
Ms. Edrie Vinson, Chief
December 2, 1992
Page 2

will be crucial. The Land Trust is also keenly interested in protecting open space, scenic, wildlife and other values in the canyon and assuring that development is well planned and orderly. We are hopeful that we can play a vital role in that endeavor, working side by side with groups like the CCIIG.

Thanks for your consideration of the Land Trust's views on this matter, and please channel as much mitigation money as you can toward the planning and protection for this critical highway corridor.

Very truly yours,

FLATHEAD LAND TRUST



Donald R. Murray
President

DRM:ds

pc: Brace Hayden



**Forest
Service
(406) 387-5243**

Hungry Horse Ranger District
PO Box 190340
Hungry Horse, MT 59919-0340

RESPONSE TO COMMENTS ON DRAFT EIS
USDA, Forest Service, Flathead National Forest
Terry Knupp for Allen L. Christophersen, District Ranger (10/28/92)

CLAYTON

OCT 28 1992

MASTER
COPY

Reply to: Highway Project

Date: Oct 28, 1992

Ms. Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Ave.
Helena, MT 59620

Project: Project_FI-2(39)138 - Draft Environmental Impact Statement for the reconstruction of US-2 (Columbia Heights to Hungry Horse)

Dear Ms. Vinson,

I want to express Hungry Horse Ranger District's support for the request of the Canyon Citizen Initiative Zoning Group for the Montana Department of Transportation to assist in the funding of a planner for the Canyon area. We agree with the need for professional assistance as residents of the area work on gaining consensus for a growth management plan.

While this effort is not directly involved in land management planning on the National Forest, the continued growth in the Columbia Falls to Marias Pass highway corridor will likely influence future decisions made pertaining to the Flathead National Forest. In addition, the U.S. Forest Service has a commitment to assist communities as they plan for Rural Economic Development in ways that are compatible with overall community goals.

Our contributions to the Canyon planning efforts have been listed in a letter to you from the Canyon Citizen Initialed Zoning Group. We encourage the Montana Department of Transportation to participate in this important project.

Sincerely,

Terry Krump
for ALLEN L. CHRISTOPHERSEN
District Ranger

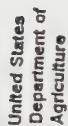
Nancy Ombolt

Date Recd.	Preconst.	D-29-92	Initial	Attach
	MAIL ROUTE			
	✓ 30 Preconst Eng'r			
	✓ 30 Assistant			
	✓ 30 Office Mgr			
	✓ 28 Safety Mgmt.			
	✓ 32 Road Design			
	✓ 32 Environment			
	✓ 34 Hydraulics			
	✓ 35 Survey & Mapping			
	✓ 36 Traffic Eng.			
	✓ 37 Traffic Operations			
	✓ 39 Consultant Osn.			
	✓ ST. LUTHERA			
	✓ FIVE			
	✓ Legal			
	✓ File			
	Info			
	Act			

KPA
Lower
Brook

1. **RESPONSE:** MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canyon Citizen Initiated Zoning Group.





**Forest
Service
(406) 387-5243**

Hungry Horse Ranger District
PO Box 190340
Hungry Horse, MT 59919-0340

RESPONSE TO COMMENTS ON DRAFT EIS
USDA, Forest Service, Flathead National Forest
Allen L. Christophersen, District Ranger (11/23/92)

NOV 24 1992

**Ms. Edrie Vinson, Chief
Environmental and Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620**

Dear Ms. Vinson,

The Flathead National Forest supports the request for planning funds from the Canyon Citizen Initiative Zoning Group (CCIZ). The skills of a professional planner are badly needed if the character of the land between Hungry Horse and West Glacier is to be preserved. The corridor along US Highway 2 well known for its scenic beauty, it provides millions of people a year with views of magnificent wild land resources as they approach the Flathead National Forest and Glacier National Park.

Without a growth management plan, this unique area is being rapidly changed by uncontrolled strip development. The area's scenic beauty is being destroyed and critical wildlife corridors are being compromised. The improvement of Highway 2 through Badrock Canyon will speed up change in this unique area. We believe our only chance to maintain the natural values along the Highway corridor is through comprehensive land use planning. Developing and implementing such a plan will not be an easy process.

believe the GCZ group has the will and desire to undertake this project but they cannot complete the task without the support of a professional planner. I urge the Department to do as much as possible to provide funding for the Canyon Citizen initiated Zoning Group's proposal.

Sincerely,

Allen L. Christopher
ALLEN L. CHRISTOPHERSEN
District Ranger

Reply to: 1560

Date: Nov. 23, 1992

MASTER F.
COPY

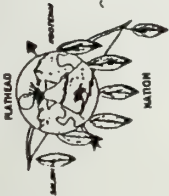
cc: Edwin T.
✓ D. S. Johnson

Columbia Heights -
1-2(39) 138
Hwy
Horse

1. **RESPONSE:** MDT has agreed to contribute a portion of the funding necessary to pay for professional land use planning in the US 2 corridor as requested by the Canvan Citizen Initiated Zoning Group.

Date Recd., Preconst.	Initial	
MAIL ROUTE	Attach	
Info	30 Preconst. Engr	
Act	39 Assistant	
	30 Office Mgr	
	31 Safety Mgmt.	
	32 Road Design	
	33 Environment	
	44 Hydraulics	
	35 Survey & Mapping	
	36 Traffic Eng.	
	37 Traffic Operations	
	39 Consultant Gen.	
	LEAD	
	LEWIS	
	W. T. Weaver	
	File	
	PA	

✓ L. Branda



THE CONFEDERATED SALISH AND KOOTENAI TRIBES
OF THE FLATHEAD NATION

P.O. Box 278
Pablo, Montana 59855
(406) 675-2700
FAX (406) 675-2806



Joseph E. Dupuis - Executive Secretary
Vern L. Clamont - Executive Treasurer
Bernice Newstrom - Sergeant-at-Arms

David S. Johnson, P.E.
Preconstruction Engineer
Preconstruction Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

RE: F 1-2(39)138
COLUMBIA HEIGHTS - HUNGRY HORSE

Dear Mr. Johnson:

The Confederated Salish and Kootenai Tribes have received and reviewed the Draft EIS for the U.S. Highway 2 - Columbia Heights to Hungry Horse Project. Thank you for the invitation to comment. In general the Tribes feel that, in light of new legislation passed by Congress, social and cultural issues were not given enough attention with regards to the design of alternatives, nor were these issues considered adequately in the selection of the four-lane alternative, Alternative One.

More specifically we have the following comments.

Section III-2, paragraph 8 states that none of the following will be affected: wildlife sanctuaries or refuges, mud flats, vegetated shallows, coral reefs, or riffle pool complexes.

This statement conflicts with Section IV-17 which states that 1.2 acres of Type 1 Wetland exist within the project corridor. Type 1 Wetlands are vegetated shallows. Alternative I will impact an additional .3 - .4 acres of wetland. Although the acreage is small, this is significant. Historically, Montana's total land area was comprised of only 1.5 % wetland. Of that 1.5 %, only 14% remains, with most of the remainder located in the northwestern portion of the state.

Additionally, Section IV-3 asserts that none of the affected wetlands affect surface water quality in the project corridor. This statement is misleading. Research performed in the Flathead River corridor demonstrated that the hydrologic influence of the river can extend >2 km from the river bank. Such connection would have a direct influence on water quality in the wetlands.

TRIBAL COUNCIL MEMBERS:
Michael T. "Mickey" Pablo - Chairman
Laurence Kermite - Vice Chairman
Elmer "Sonny" Mongeau, Jr. - Secretary
Archie "Tony" McArthur - Treasurer
Louis Adams
Lloyd Howe
Patrick Lundland
Henry "Hank" Baylor
John "Chas" Lotzau
D. Fred Matt

C.E.: Gordon Larson
Jim Weaver
David Johnson
Sam Nordlund

RECEIVED

AUG 5 - 1993

ROBERT PECCIA
& ASSOCIATES

August 3, 1993

RESPONSE TO COMMENTS ON DRAFT EIS

Confederated Salish and Kootenai Tribes of the Flathead Nation,
Michael T. Pablo, Chairman, Tribal Council, (8/3/93)

1a. RESPONSE: The paragraph you reference on page III-2 of the Draft EIS has been modified for the Final EIS to read:

The proposed action will not affect any wildlife sanctuaries or refuges, mud flats, or coral reefs. The proposed construction of a new bridge over the South Fork of the Flathead River would affect riffle and pools. The natural sequence of riffles and pools that exist in the South Fork have been obscured by the alternating flow regimes from Hungry Horse Dam.

This text modification also eliminates the apparent contradiction over the use of the terms vegetated shallows and W-1 wetlands (wetlands with emergent vegetation located in permanent shallow water) in the Draft EIS.

1b. RESPONSE: Impacts to Type W-1 wetland (located primarily at Wetland Site 2) are unavoidable since the new road would be widened following the existing alignment. Minor areas of Type W-1 wetland were identified at Wetland Site 4, located on a river terrace west of Badrock Canyon. MDT has proposed to develop a replacement wetland area on an adjacent portion of the river terrace. Please review FIGURE IV-2 in the Final EIS. The replacement area could be designed to incorporate areas of Type W-1 wetland.

2. RESPONSE: The wetlands affected by the proposed action were redelineated for the Final EIS based on the 1987 Corps of Engineers Wetlands Delineation Manual. The functions and values of each affected wetland were then evaluated using the Wetlands Evaluation Technique (WET). The functions and values of affected wetlands, including those that relate to water quality, are presented in TABLE III-1 of the Final EIS.

David S. Johnson, P.E.
August 3, 1993
Page two

Section IV-6 addresses the effects of road construction on surface water quality and concludes that there is an "absence" of surface water quality impacts. While TSS, turbidity, and sedimentation will be greatly elevated only during construction, the problems associated with modification are pervasive.

3

Rifle pool complexes do exist underneath the current bridge site. Alternating flow regimes from Hungry Horse Dam obscure the natural sequence of rifle pool complexes. Construction of a new bridge would affect these complexes.

4

Section III-7, paragraph 3 states that the only groundwater resource to be impacted will be the spring at Berne Memorial. This is not an accurate appraisal of groundwater impacts in the construction corridor. Again, research performed in the corridor has established a strong connection between surface, interstitial, and groundwater. Given the glacial history of the area, porosity, and permeability of the alluvium it is intuitive that the floodplain contains an unconfined aquifer, upwells, and interstitial water. All of these could be affected by construction.

5

3.

RESPONSE: The effects of the proposed action have been evaluated according to the Section 404(b)(1) guidelines contained in Part 230 of Title 40 of the Code of Federal Regulations. A Draft Section 404(b)(1) Evaluation examining the proposed actions potential effects on water quality and the aquatic environment was prepared and is included in APPENDIX 14 of the Final EIS.

The incorporation of a vertical retaining wall along the Flathead River in Badrock Canyon would result in nearly an 80% reduction in the amount of fill placed below the ordinary high water mark over the design proposed in the Draft EIS. Additionally, the implementation of measures to control erosion and potential sediment transport to surface waters would serve to safeguard water quality. APPENDIX 13 lists the kinds of erosion control measures that would be appropriate for the project corridor.

4.

RESPONSE: As response 1 indicates, the text of Part III in the Draft EIS was modified for the Final EIS to indicate that riffle and pools exist in the South Fork and could be affected that the proposed construction of a new bridge over the South Fork. Text describing the potential impacts to riffles and pools has been added to Part IV of the Final EIS.

5.

RESPONSE: The proposed highway reconstruction would encroach on the floodplain of the Flathead River in Badrock Canyon. With the exception of the excavation necessary to construct the lowest portions of the proposed vertical retaining wall along the river, highway construction through Badrock Canyon requires relatively minor excavation. The elevation of the new road would be similar to that of the existing facility. Where excavation for the new road is necessary, it would occur in the area occupied by the existing roadside turnout at Berne Memorial Park. Preliminary design plans show that the depth of excavation for the new road would be approximately 3-4 feet deep in this location. Soil borings conducted by MDT show that ground water was not encountered at this depth.

The new road would cross the floodplain of the South Fork of the Flathead River at the site of the new bridge. The new bridge over the South Fork would require placing fill material to construct its approaches, building abutments on each river bank, and constructing new piers in the river. The new structure would be located immediately downstream from the existing bridge. Since the existing bridge does not appear to have exposed ground water resources and the new bridge would be constructed in an area with similar geologic materials and characteristics, adverse effects on groundwater resources are not anticipated.

Section III-15 states that any affects on (environmentally sensitive) areas that may result from proposed action would be indirect and very limited in their extent. This statement conflicts with section IV-19. This section states that riparian habitat would be lost in and east of Badrock Canyon as a result of construction. This area is used by bald eagles (Section IV-22) for perching and foraging sites. The riparian area also acts as a refuge for raptors since it provides screening and cover.

We also noticed that Figure 18, on page III-16, does not have the Mission Mountains Wilderness Areas identified. The number system for Figure 17, on page III-13, should be edited so forested conifer areas are identified by only one number.

Finally, we feel that the Biological Assessment for Threatened and Endangered species was complete and accurate, but general fish and wildlife concerns throughout document are in need of more detail.

Again, thank you for the opportunity to comment.

Sincerely,
Confederated Salish & Kootenai Tribes

Michael T. Pablo
Michael T. Pablo, Chairman
Tribal Council

ref: LTR.DEIS.BEL

6. **RESPONSE:** The statement referenced by this comment relates to the four environmentally sensitive areas (Glacier National Park, the UNESCO Biosphere Reserve, Wilderness Areas, and the Coram Experimental Forest) identified on the previous page.

Parts IV and V of the EIS contain detailed discussions of the effects that highway reconstruction could have on Badrock Canyon and the Northern Continental Divide Grizzly Bear Ecosystem (NCDE).

7a. **RESPONSE:** The figure depicting Environmentally Sensitive Areas has been modified for the Final EIS to include the Mission Mountains Tribal Wilderness Area. Text in Parts III and IV of the Final EIS was added to identify the wilderness area and to discuss the effects of the proposed action on this environmentally sensitive area.

7b. **RESPONSE:** The list of community designations contained in the Draft EIS has been modified slightly for the Final EIS. The list now includes two designations for forested cottonwood/conifers areas (W-7 and R-7) to differentiate between riparian vegetation that provides aquatic habitat and terrestrial or non-wetland habitat. The vegetation communities designated as W-7 on Figure III-6 in the Final EIS are considered jurisdictional wetlands under Section 404 of the Clean Water Act.

8. **RESPONSE:** The text of the Draft EIS has been modified for the Final EIS to include additional information about sensitive species in the project area including the westslope cutthroat trout, the bull trout, and the Coeur d'Alene salamander. The Draft 404(b)(1) Evaluation attached as APPENDIX 14 of the Final EIS describes the proposed actions potential effects on the aquatic ecosystem, including the other organisms that depend upon the surface waters of the project area for habitat.

SAVE BADROCK CANYON

WEST ENTRANCE TO GLACIER NATIONAL PARK

PETITION TO SAVE BADROCK CANYON
Circulated by Coalition for Canyon Preservation

U.S. 2

The 1-mile Badrock Canyon for protection as recreational Scenic Rivers Act.
95 signature sheets of implement this Act and
8 signature per sheet wooded cover for wildlife & rials, & a floodplain bench
We demand protection for against a 4-lane urban design

JAN 22 1993
ROBERT PERINA
ASSOCIATES
BEAC

BEAUTIFUL NATURAL
"RKWAY ALTERNATIVE".

NAME

ADDRESS

1. Dave Papette
162 River Rd. C. Falls
59937
2. Mike Stuech
402 Columbia Ave. Whitefish, Mt.
3. Joseph Larkin
10.1415 Eureka Wt.
4. Kathy Hagen
5181 Reibe Columbia Falls MT
5. Steven Theresia Kroll
5131 Reibe Columbia Falls MT
6. Kathy Johnson
PO Box 502 west Clain MT
59938
7. Janet & Bob Hunt
1884 N. Mainway, MT 59901
8. Quinn Gilson
707 Ronald Mission MT
59801

VI-184

1. RESPONSE: MDT acknowledges the receipt of approximately 95 signature sheets of this petition.

18 pages of this petition

PETITION IN FAVOR OF U.S. 2 RECONSTRUCTION
Circulated by Responsible Citizens for Highway Improvement

SPRING TO ; Responsible Citizens For Highway
Improvement. P.O. Box 130075 Coram Mt. 59913

This is to inform the Montana Department of Transportation, we the undersigned residents of the Flathead Valley and the Canyon area are not represented by Sharon Willows or the Canyon Coalition.

We the undersigned, are in favor of the 4.4 mile reconstruction of HWY 2.

1. RESPONSE: MDT acknowledges the receipt of approximately 18 signature sheets of this petition.

[illegible]

12/10/92

DAN BARTSCH

This tape will be used for the one-on-one, open for public hearing on Columbia Heights - Hungry Horse in which any persons that attend this hearing wishes to present verbal testimony can do so. Today is December 10th, 1992. Our Hearing was scheduled to start at 1:30. We have had no one request to the verbal testimony as yet. Right now the time is 2:10. We'll go from there. No one offered oral testimony during the afternoon.

Okay. I think we have most of you folks who wish to attend, here at this point. All we're going to do in this session is to review the job. Dan Norderud is here who is the chief of the design crew for the consulting firm Peccia & Associates who is working on the project. Maybe many of you have talked with him or his people as they've been up here during this long study session. Dan explain a little bit of the job and the background of it and some of the main events and some of the main concerns that have been in the draft EIS. When he is through, then we will return to our one-in-one meeting session. If you have any particular concerns that you have not been able to get resolved or addressed, make sure that you get in contact with one of the representatives from the highway. Anyone else who would like to make any formal presentation for the record of the Hearing can stay here. We're going to be recording any of your comments and your input. So, that's basically what the format will be right now. It's not going to be open discussion session as some of our other Hearings have been. We'll have more one-on-one after the meeting. So, with that I'll have Dan explain to you what the job is.

DAN NORDERUD

Thank you. Yeah. As Dan mentioned, I'm Dan Norderud and I'm a transportation planner with Robert Peccia & Associates. Our firm was hired by the Department to prepare the environmental impact statement for this project, which is examining reconstruction of Highway 2 between Columbia Heights and Hungry Horse. The Department is proposing reconstruction of this corridor for a number of reasons. First, the highway is more than

RESPONSES TO COMMENTS MADE AT THE OPEN FORUM LOCATION & DESIGN PUBLIC HEARING

Held at Columbia Falls, Montana
December 10, 1992

This section of the transcript summarizes remarks made at the opening of the Public Hearing.

This section of the transcript recounts the presentation made at the hearing which summarized the proposed action, the impacts associated with the project, and mitigating measures for identified impacts.

60 years old and it's condition has deteriorated. Another reason is that the existing road really doesn't have the ability to handle the kinds of traffic volumes that have shown up in the corridor of the last 20 years or so. The corridor also has a high accident rate. Our statistics have shown that the 4 1/2 mile corridor has an accident rate that is about more than two times higher than other primary roads within Montana. Also, adjacent sections of Highway 2 east and west of the project have been reconstructed to higher standards. This section becomes kind of a bottleneck for cars and is a source of discontent for some drivers and cueing, and all those kinds of things that happen as we go through the corridor. The main purpose of this meeting tonight is, again, to give you people an opportunity to comment on this proposal. We also want you to comment on the draft EIS. We've prepared a brochure that I think all of you have, I hope you all have, that really summarizes many of the main points that are in the environmental impact statement. It's a little less intimidating kind of a document to read than going through the very technical environmental document that many of you may have received. The draft EIS essentially narrows down a wide range of alternatives to five particular actions that were examined in detail for this project. We looked for the option of doing nothing to improve the corridor. This is an alternative that we must evaluate and provide you with a base condition to gauge the impacts of the other alternative actions for the project. We also looked at a two-lane design, that's just an improved road. In this case it would be a 44-foot wide highway. We looked at a two-lane road that would have a center median or left turn lane incorporated in those areas where's it's necessary. We also looked at a four-lane undivided highway that's 64-feet wide, and we also looked at a 4-lane that has a median and left turn lane incorporated in the appropriate locations. Based on the evaluations that we've done to date, the Department of Transportation favors a four-lane design for this project. This favoring of an alternative basically comes out of the inability of a lesser design to really accommodate traffic that projected to increase in the corridor. The final decision, I should make you aware on a preferred alternative, really won't happen

This section of the transcript recounts the presentation made at the hearing which summarized the proposed action, the impacts associated with the project, and mitigating measures for identified impacts.

until all the comments on the Draft EIS have had an opportunity to be reviewed and your comments that you may offer tonight get a chance to be reviewed. The preferred alternative is best understood by looking, or by discussing what happens in three particular areas of the project corridor. First of all, in Columbia Heights, what's proposed there is a road that would be a four-lane road with a two-way center left turn lane to accommodate the businesses located on either side of the road within this part of the Heights. There is curb and gutter, pipe storm drain proposed for this area. We're considering including sidewalks throughout that whole section, and we would also call for reconstructing the intersection of Highway 206 and US 2. We want to give preference to the traffic on Highway 2 because that's where the volumes are. As it is right now, the secondary road gets the go-ahead and the eastbound traffic on Highway 2 has to come to a stop and make a turning movement. In the next section, or, I should back up a little bit, too. The Department is also considering a proposal that was made by the National Park Service to include a park and ride facility in this area. This kind of facility could be located near the intersection of Highway 206 and Highway 2. It would be a place for commuters from the Flathead Valley that work up the canyon to get together and meet and arrange for car pools or, as in the case of the Park Service or the Forest Service, make some travel arrangements to save energy and also cut down the number of trips that are required to be made through the corridor. Another thing that'll happen in this area is that the weigh station that's there right now would be moved out. There's a number of traffic conflicts caused by heavy trucks coming from either direction and crossing the highway, and we want to eliminate that, those kinds of problems if we can. Between Columbia Heights and Badrock Canyon, a four-lane design with a median or left turn lane wherever it's appropriate, is the proposed action, the preferred alternative, excuse me. We're proposing that a left turn lane would be provided at Monte Vista Road and also at Berne Park. The Berne Park, the Berne Road, excuse me, the Berne Road area is also the site of a proposed recreation, new recreation site that the Department would jointly develop with the Forest Service. This would

This section of the transcript recounts the presentation made at the hearing which summarized the proposed action, the impacts associated with the project, and mitigating measures for identified impacts.

be in part for replacing uses and effects that this project would have on Berne Memorial Park in the canyon, and also, the Forest Service has expressed a desire to locate a river access at this point. Berne Road itself would be realigned slightly to match one of the approach roads to the recreation site. We want to make a nice easily negotiated four-way intersection at this point. In Badrock Canyon to Hungry Horse, this is the, as we're all aware, the most sensitive part of the corridor and it's really has presented, or presents, a difficult design problem for developing a new road through there. The Department is proposing an undivided four-lane road through this area. It would be 64-feet wide. The proposal also includes the construction of a new bridge over the south fork of the Flathead just west of Hungry Horse. The structure would be located downstream of the existing highway bridge and the existing bridge would be removed after construction of the new bridge and it's placed in service. In trying to minimize the impacts that we would have on all of these sensitive resources in Badrock Canyon, we've had to adopt a compromise alignment in there. That, by that I mean we're trying to minimize what kinds of effect we have on Berne Park, minimize what kinds of effects we have the river, minimize what impacts we have further east towards Hungry Horse. The proposal would require that fill be placed in a portion of the Flathead River to allow the road to be shifted away from Berne Park. The proposal also would affect and excavate the western-most cliff at Berne Park but leave much of the other natural area behind the existing turnout, the existing spring and fountain in place. What's proposed for this, for the fountain, is to, as I say, the main, leave it in service but restrict, or change, modify the access to that spring. Continuation of use of the water source has been a concern that we've heard all through this process and we're trying to accommodate that. The alignment shift also affects trees that are located opposite Berne Park between the river and the existing highway. This is a, presents a difficult problem because they are potentially used as, are available for perching sites for bald eagles and they also serve as screening for feeding eagles along the river. We have gone through formal consultation with the Fish & Wildlife Service

This section of the transcript recounts the presentation made at the hearing which summarized the proposed action, the impacts associated with the project, and mitigating measures for identified impacts.

on this particular issue, and that agency has rendered an opinion that said that this action would not jeopardize the continued existence of the species. The exhibit signs at Berne Memorial Park would be relocated to a new recreation site as part of this proposal. The cost of doing all of this project right now is estimated to be about \$10 1/2 Million and when it could be constructed really depends on receiving approvals for this project and also upon availability of funding. At this time, it's a best guess that, without hitches, there could be some kind of a ready date in early 1996. The project could begin to be constructed later that same year and we anticipate that it's going to take about two years to complete all of the activities associated with this. Because the purpose of EIS is to primarily to identify impacts, I thought I'd take a little bit of time to go over some of the impacts that this action will have. The most beneficial and adverse impacts associated with the project. Beneficial impacts are really pretty easy to live with, obviously. This particular project will improve the operation and safety of the road; it'll provide a facility that can accommodate the growth that we expect to occur in traffic on this particular corridor. We're attempting also to minimize or reduce the number of conflicts between turning and through traffic in the corridor by providing features like left turn lanes and the medians. It'd also provide some additional facilities. The wider shoulders and the sidewalks where we would consider them, would provide additional or improved facilities for pedestrians and bicyclists that may travel through the corridor. I think that the new recreation site or the rural access site certainly adds a new recreational opportunities to the area. As I mentioned, reconstruction certainly is going to have the potential to adversely affect resources. I think one of the foremost things that we've been concerned with is the effects on water quality due to the placement of fill in the Flathead River. There are a number of safeguards in place to ensure that this project is developed so that surface waters aren't degraded. There are federal, state and local permit requirements that must be met. The most notable among these is the 404 Permit which would be necessary to, before any placement of fill could occur in the Flathead River. There is quite a review

This section of the transcript recounts the presentation made at the hearing which summarized the proposed action, the impacts associated with the project, and mitigating measures for identified impacts.

process that's associated with this permitting requirement. The EPA reviews the proposal for water quality impacts, as well as the Corps of Engineers who is the issuing, the permitting agency. There's also a concern about storm water runoff. This, the Department has recently instituted an erosion control work plan process where, and that offers a procedure for identifying the kinds of measures that can be implemented in the project to minimize the effects of runoff on surface waters or wetlands. This is also the completion of an erosion control plan for this project, is also necessary to comply with the state stormwater permit. Flathead County also has floodplain permit requirement that must be adhered to. The project may also affect some minor wetlands located along the corridor. A mitigation plan will be developed, further developed as we continue on in this process, that will identify the exact impacts and the kinds of mitigation that's being proposed. The emphasis of this mitigation plan will be on replacing or enhancing wetlands within the project area itself. The, as I mentioned, the, I think I pretty well talked about the issue of the affect on the cottonwoods opposite Berne Memorial Park. The, as the US Forest Service, Fish & Wildlife Service rendered their opinion, they also made several conservation recommendations that were tried to be incorporated into this project. The little handout has a number of these recommendations, but one or two that I might point out are limiting the construction period so as migrating bald eagles may not be disturbed from their perching sites. Also, the Fish & Wildlife Service has encouraged the Department to try to acquire other riparian, forested riparian along the Flathead in this particular project area and conserve that habitat. The project, as you're all aware, has affects on Berne Memorial Park. And, as I've indicated, the Department has proposed a replacement park facility near the House of Mystery. The Department has already acquired property in this area, as well as across the road so they have the ability to develop this site at that point. The project would also, as it's proposed right now, will also displace about six households within the corridor. And, these kinds of, it would also require some minor acquisitions of property from various residential yards and commercial parking

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areas within the project area. Any right-of-way acquisition necessary for this project would be handled through the Department's Right-of-Way Bureau. Right-of-way would be purchased at their market value and relocated businesses or residences would be provided special assistance through the Department's Right-of-Way Bureau. The completion of improvements to this corridor, along with adjacent projects, may also make travel between the Flathead Valley and points up the canyon easier and faster. There's a potential that this could contribute to commercial and residential development happening along these corridors. As I mentioned, the Department has already acquired a couple of parcels and has looked, had discussions with the canyon citizen initiated zoning group about what can be done to control land uses within the corridor. At this time I think the Department is considering a request from the canyon citizen initiated zoning group to participate in the land use planning process and in developing a growth management plan for the corridor. This group is really concerned with the, beyond this particular project. They're concerned with what happens between Hungry Horse and the county line at Pinnacle(?). In concluding, I guess I would just say that this Hearing is really geared towards receiving your comments, and we're offering you a number of ways to do that. This location will be available for you to make a public statement and go on record or you can come and discuss you individual concerns with a number of agency representatives at the tables in front. And, as always, we encourage you to provide your written comments. We do look at them, so don't be discouraged in that way. But, the idea is that is to comment tonight, please. We need your input. I might mention one other thing. In the brochures that you have, you may see some big X's on a page, and there's a little bit of a misstatement made. That's the reason for these crossing, taking the paragraphs out. The proposal that's discussed in those paragraphs, as I mentioned, is under consideration at this time, and there's been no formal decision made about the Department participating or funding projects. If you've got questions about anything, please come and talk to us.

This section of the transcript recounts the presentation made at the hearing which summarized the proposed action, the impacts associated with the project, and mitigating measures for identified impacts.

DAN BARTSCH

Okay, Dan. Thank you. That just gives you a verbal outline of what's in the handout and of course a thumbnail sketch of what's in the environmental document. So, with that, our official part, or formal part of our meeting tonight is concluded. Any of you wish to stay here, may do so, I have a couple of people who would like to make statements here, and the any of the rest of you who would like to make a formal statement, put it on our record, we certainly welcome you to come up. Just give me a high sign and we'll get you in line. Any of the rest of you who just have personal comments or personal concerns, why, as Dan said, the tables are now open for any of you to go ahead and circulate and address your problems. We'll try to address them out there for you. Okay? Thank you.

It'll be a couple of minutes to break up if you'd like to. As people are moving around making whatever choice you'd like. I have a couple of people who have asked to make statements. If they're still here, Mike Krieger had some comments you'd like to make for the formal record. I have a Mr. Casey if he's still here. We'll talk to him next. Mike, go ahead. The folks or just me or whatever, however.

MIKE KRIEDER

My name is Michael Krieder. I live in Coram. I've lived there for ten years and I work in Kalispell as a realtor. I became involved a little bit in this a few months ago when I heard of the delays that were happening on this, and I was concerned because I didn't want this put off any more than it should've been. I'll just read what I've put here and then I can hand this to you and you can put it in the records. My reason for being here tonight is a very selfish one. If one person, much less a child, were to be hurt in this stretch of road because it was delayed and I did not say or do something to help speed up the construction and avoid just one accident, I would feel guilty for the rest of my life because I had the opportunity to at least try to save that one person in getting this highway through as soon as possible. I hope the rest of you feel the same way. I drive this 4.4-mile highway that we are here discussing a minimum of 700 times a year. That means in the last ten years I've driven it 7,000 times, and my family have suffered now for ten years. If there were any other

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route, we would take it, because it is a dangerous, especially tonight, stretch of highway. When I moved to Coram ten years ago, I asked why the State Federal Highway Department did not improve the dangerous, deplorable road, and that's the one that's between the Hungry Horse and West Glacier. The answer was that an organization had blocked the improvement for years. When I saw the new highways finally built, it much less than I had anticipated it would be. On this old highway, I almost lost my daughter and my son in accidents related to the highway problem. My daughter flipped her car on a slick night like tonight. My son was hit when he was disembarking from a school bus because of the narrow highway, and a truck hit him, hit the school bus and hurt him. So, I could have lost both of those children. But, not their fault, not the driver's fault, but the highway fault. So, I don't want this one delayed so that other children are hurt.

When I read in the paper that this new road was being delayed by the same individual and that I understand is paid by some organization to block this, the same organization that blocked the other highway, I became alarmed and started asking people what they thought about the delays. I even put out a petition in regard to it. A large majority of those that I talked to do not want a repeat of the last highway project. I have a, I would have many more petitions than I have, but a large number of them were stolen and the people who were presenting them for signatures were harassed and threatened. I have been threatened, with legal action and called filthy names because of my involvement in this, on the phone by the representatives of this organization I've been referring to. So, I now have incurred expenses involved with my attorney in defending myself in regard to these threats. This shows me that, yes, we are in for a battle with some organization that were responsible for the delays before. The State and Highway Department engineers, I feel, are experts. They are trained and paid to do a job for the citizens. Novices making changes to these designs are dangerous. We hire them to do the job for us, and they should be allowed to do it. I am anxious to hear and see what this Dr. J. F. Morrall, the renowned Canadian Engineer, who have I been

1. **RESPONSE:** The original EIS prepared for the Hungry Horse-West Glacier project was found to be inadequate, therefore, reinitiating the EIS process was necessary.

2. **RESPONSE:** MDT acknowledges the receipt of approximately 18 signature sheets of the petition referenced by Mr. Kreider.

told is a major designer of most of the major highways in Canada, has to say. I understand his extensive report is due tonight, but I haven't heard from him. It's nice that the province of Alberta and University of Calgary has donated this man to help us with this project in engineering. At least he's not a lay, inexperienced person. I hope to hear his report. Just a comment about the proposed relocation of the Berne Park. I happen to be a fly fisherman and I float the river a lot, and to have an access in this area would be fantastic. The present access is at the Blankenship Bridge in Columbia Falls, so with an access at this location would make shorter runs and more people could enjoy that river. The other relocation of this park would be a safety factor in that you won't have tourists standing in the road and crossing there. The other comment is involved with the bicyclists that go down there. And, with a wider road, you wouldn't have to veer out away from those bicyclists and into the other lane of traffic to avoid those people. So, I'm really, really, I'm encouraged with the report that I heard tonight, it really sounds like they've done a comprehensive, excellent job on this thing. And, the people that I've talked to who've signed the petitions that I turned over to the state tonight, all seems to feel the same way that I do, as I've talked to them. They want this done as soon as possible, want it done correctly as the engineers have designed it, and want no more delays like this last delay. Thank you.

Okay. Thank you. That's the written statement also? We'll put it in the record, and of course have this in the tape. Mr. Casey. Mr. Casey wanted to make a statement. If there's anyone else who'd like to enter any comments or any testimony, we'd appreciate. The gentleman started up here, I'll have you up next. Yes sir.

My name is Homer Steele and I live in Columbia Heights. I've lived there for about 40 years, and this highway is a dangerous highway the way it stands. I've waited as long as 20 cars before I can make a left-hand turn up there in the summertime, and I'm all for making this highway just as wide as they can, just as safe as they can and just as cheap as they can. The last highway going from Hungry Horse to Glacier Park, they had

3. **RESPONSE:** The Coalition for Canyon Preservation requested that Dr. John F. Morrall prepare an alternate highway design for the project corridor based on "state-of-the-art" analysis methods for two-lane highways. Contacts with Dr. Morrall indicated that he planned to have civil engineering students prepare a passing lane study based on actual data for the Columbia Heights-Hungry Horse corridor as a class project. In correspondence to MDT on October 7, 1992, Dr. Morrall indicated that the class project was canceled due to low registration and late withdrawals.

Dr. Morrall indicated what he considered as the "state-of-the-art" methods were for analyzing two-lane highways in his October, 1992 letter. These methods were strictly followed during the development and evaluation of alternatives for the EIS. He also stated that based on a cursory review of information about this project, passing lanes would not be an appropriate alternative for US 2 between Columbia Heights and Hungry Horse.

4. **RESPONSE:** The USFS has viewed a the provision of a river access along this reach of the Flathead River as desirable for many years. The safety issues raised in this comment were considered during the development of alternatives for the highway and replacement parkland.

5. **RESPONSE:** Analyses based on projected future traffic volumes within the corridor show that a four-lane facility is needed to provide the desired level of operation over the next twenty years. The proposed facility would alleviate the substandard geometric conditions that exist on this section of US 2.

HOMER STEELE

the right-of-way bought, they had it cleared and they held it up for a year or two and we end up with a three lane highway, and it's more dangerous than the two

lane you're supposed to be in. You don't know which making it just as wide as they can, just as safe as they can and just as quick as they can. And, I know that there's at least two ambulances go by my place every day in the summertime. That's an average of at least two, maybe more. And, this is about all I've got to say. But I appreciate your listening to me. Thank you.

DAN BARTSCH

Okay. Thank you Mr. Steele. The lady here please. Yes Ma'am.

WOMAN

Okay, I think everybody here's is concerned or they wouldn't be here at all tonight. I've lived here my whole life, 31 years. And, as we can see, there's all sorts of people moving into the valley. We do need a road. I agree. Let's get it in here. Let's make it so the bicyclists and the people coming in can have a safe road to be in. We don't want anybody to get in a car wreck. No one does. But, let's think, why are the people coming here? They're coming here to get away from the city. They're coming here because maybe the beautiful scenic area. Everybody wants to enjoy it.

The one part that I disagree in with what you people have come up with, from the man that first gave a speech here, is obviously, he has never been to Berne Park or hiked back in the mossy, beautiful shaded area that is provided there now. People can come and be driving along on the highway, and all of a sudden find a beautiful pull-off that has water for the bicyclists and a beautiful...

If anybody has ever hiked there, you can go back, there's caves and there's proof that there has been lots of Indian activity there. This is from the Library of Congress. (Inaudible question) Number 70975113. It's all documented here. And, this is just a really short little story how the Flathead Kootenais would camp at the mouth of Badrock Canyon when they were attacked by a large party of Blackfeet. Instead of going into the hiding, the Kootenais circled behind the Blackfeet, cut off their retreat and forced

6. RESPONSE: The need for improved traffic safety within the corridor is documented in Part 1: Purpose and Need for Action of the EIS.

6

7. RESPONSE: The preparers of the Draft EIS/Section 4(f) Evaluation have visited Berne Memorial Park on several occasions during all seasons of the year. The features of the park, including the cliff area above the turnout, were examined during these visits.

7

8. RESPONSE: Please review the response to comment 1a in correspondence dated 12/21/92 from Sharon L. Willows presented previously in this document. The response to this comment discusses the Indian battle that is alleged to have occurred in Badrock Canyon and summarizes coordination efforts with members of the Culture Committees for the Blackfeet, Flathead, and Kootenai Tribes about the significance of the area.

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them into what is now the Wild Horse Island. This is documented. There's been Indians using this corridor for thousands and thousands of years before we came. If we could just think of maybe some alternatives to blasting and blowing up. It's like it's such a white man thing to just blow it up. Why can't we think of maybe there's the alternative of, they call ' which is really a bridge substructure built over the water. I don't see why you people didn't think of an alternative like this. It would make the whole canyon, it could still be used.

The beautiful shady area, when the bicyclers came, instead of having to climb a hill where it's completely dry and hot, they could come to the shady beautiful, mossy... God made a park that's already there. If people could think instead of having to destruct and blow up, we can work with nature, build a bridge, and we can all be happy. Let's build the road, we all need the road, it's horrible and icy, and the poor bicyclers. If anybody has ever seen the bicyclers on this side of the road with Winnebagos. We need a road. Everybody's fine with that. But, let's try to work with nature and remember how beautiful Berne Park is.

Anybody who came up with this is definitely not hiked back in Berne Park and every time that I've been to them in the last two years, the Highway Department, whoever's in charge of cleaning up that area, is not doing their job. Every time I stop I have fill up the whole back of my car with garbage when it's such a beautiful sacred ground. And, if they can't even clean up this end, how they going to clean up the other one they're going to make. Let's try to work with nature and everybody'll be happy. (Applause)

DAN BARTSCH

Thank you. I just changed my tape so I ...
Yes Ma'am? Sure. You bet.

LAURIE BOYCE

My name's Laurie Boyce and I live in Martin City. I'd just like to address the problem of Berne Park and along the lines with what the lady previous to me said. I worked at the House of Mystery a few summers ago and a lot of people come in there and a lot of people who come in there talk to us about the area. And, when I was in there, a very old Indian came in there one day and was talking

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9. **RESPONSE:** The use of a cantilevered roadway in the Berne Memorial Park area was examined in Part II: Alternatives in the Final EIS. An alignment to totally avoid impacts on Berne Memorial Park was investigated for the Draft Section 4(f) Evaluation. The alignment required to totally avoid the park is shown in Figure V-4 of the Final Section 4(f) Evaluation.

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10. **RESPONSE:** Maintenance of the existing park was identified as an concern during the development of the EIS. Both MDT and the USFS would be responsible for maintaining portions of the proposed river access and replacement park area.

LAURIE BOYCE

to me about Berne Park. He told me that the Indians believed that that area was sacred grounds, and they use the area, they use the upper road and they didn't even use the lower road because they thought it was a sacred area. He also told me that there is an old burial grounds up there somewhere. I don't know if there's any written documentation or anything. The Indians have oral history. They don't rely upon writing it down. They rely upon their oral history. I believe that they should take this into account when they consider what they're going to do with the highway, and I believe that they should really keep it, sorry, I believe that they should really try and keep that area preserved because the Indians for years have always considered that a very sacred, holy place and I think we should preserve that.

DAN BARTSCH

Okay. Thank you. Anyone else? There's a gentleman way in the back there. Yes sir?

MAN

Just a couple of questions, you know, like ...

DAN BARTSCH

Excuse me. If you come up to the microphone and make the comments or your statements for the record please. That's all we're taking right now. Thanks.

MAN

Well, once again nobody's arguing the fact that the road needs to be rebuilt. That's obvious. I've worked for Glacier Park for 15 years so I've commuted through that thing I don't know how many years. (Comments in background ... "speak into the mike.") Yeah. Okay. I said I don't think anybody's going to argue with the fact that the road needs to be rebuilt. I worked for Glacier Park for 15 years so I've commuted through that canyon I don't know how many times, but it's pretty scary. A couple questions I had was were you going to redesign the intersection there from old US 2 to where new US 2 is? You know, there's a lot of guys coming up from Big Foot and Kalispell and that redesign there won't allow smooth traffic flow through that area at all anymore. Plus, you're still not doing anything with the amount of kids on bicycles running back and forth between the Columbia Heights area and the Big Sky waterslide. With this new design, there's not going to be any slow-down and stopping of traffic at that present intersection. You're also going to now fly it through the Columbia Heights area

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11. **RESPONSE:** Please review responses to comments 1a, 12c, 12d, and 12e in correspondence dated 12/21/92 from Sharon L. Willows presented previously in this document. These responses summarize coordination with the Blackfeet, Flathead, and Kootenai Tribes about the cultural significance of Badrock Canyon.

During the development of the Draft EIS, a meeting with a representative of the Kootenai Culture Committee was held at Berne Memorial Park to discuss potential impacts on sacred places. Based on this meeting and other coordination, the proposed action would not impact sacred places.

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12. **RESPONSE:** The intersection of US 2 and FAS 206 (the road to Big Fork and Kalispell) would be redesigned with the proposed action as shown on page A4-7 of the Draft EIS. The need for signalizing the intersection and for locating pedestrian crossings will be investigated during the final design of this project.

A park-and-ride lot in the vicinity of this intersection has also been proposed to facilitate motorists traveling to and from work in the Hungry Horse to West Glacier area. If commuters can be encouraged to arrange carpools from this location, the number of daily vehicle trips on US 2 can be reduced and energy savings can be realized.

13. **RESPONSE:** Travel speeds on the new facility must be monitored and analyzed to determine if an adjustment to the posted speed limit is necessary.

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MAN

at a much higher rate of speed making access on and off that road pretty difficult.

And, by extending this 76-foot rural design all the way down almost into the canyon, you're going to be encouraging further development all along that strip, which is going to exasperate the problem even worse. And, the idea of moving Berne Park to another location... I can understand you've got a lot of problems in the canyon there, but right now, you know, as soon as you pull into that canyon it's much, much cooler.

And to take it out of there, put it down there in this big wide-open field where there's no shade and hot sun, I'm sorry it just doesn't cut it.

And then, on the other end, I really haven't seen a design for the bridge. I would hope that when you're doing the design for the bridge you're going to have bikepaths on both sides of the bridge that are separated from the flow of traffic by barriers or something so they're not sharing the same surface in case somebody flies out of control. Thanks.

DAN BARTSCH

Okay. I guess I can just reference that we're going to take your comments and your points and take them in consideration. As to your question on the intersection as it is proposed, I ask that you contact one of our people out there at one of the tables, they do have a concept. We have had several comments about variations to that or suggestions about that intersection as it's designed and we're certainly going to be looking at those comments. I'll ask you that if you have any particular suggestions about it, make sure you get them in or write them down or submit them to them. But your comments up here, of course, are going to be part of our record and we'll certainly look into those too. Anyone else? Gentleman here in the red vest.

MAN

I'd just like to offer a slightly different perspective. I'm somebody who hasn't lived here for a long time, and I think that's one of the important things that needs to be brought up here. We've got something here where everybody has legitimate concerns about safety, biological impacts, traffic flow patterns, things of this sort, growth and

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14. **RESPONSE:** Please review the responses to comment 3 in correspondence dated September 21, 1992 from Jonathan P. Deason, Director, Office of Environmental Affairs for the U.S. Department of the Interior and to comment 4 in correspondence dated October 22, 1992 from Carol Daly of the Flathead Regional Development Corporation presented previously in this document.
15. **RESPONSE:** A similar setting for Berne Memorial Park does not exist elsewhere in the area nor can it be duplicated at the proposed replacement parkland. The replacement park area will be designed to incorporate enhancement measures like tree plantings and the elimination of noxious weeds. Please note that only conceptual designs for the replacement park area have been prepared to date. The replacement parkland will be improved substantially beyond its present condition.

16. **RESPONSE:** The proposed bridge over the South Fork of the Flathead River has not yet been designed. The proposed bridge will be designed to accommodate the needs of pedestrian and bicycle traffic.

development is very significant. But, one of the things that seems to be lacking is the comprehensive planning effort to look at what happens to the impacts on communities. Highways are a lot more than shoulders and asphalt. They're a conduit for change, and I've lived a lot of places and I've never seen a large highway development go through a community without changing it permanently, whether for better or for worse. And, whether we embrace this or are opposed to it, I think it's significant that this issue hasn't been addressed. We need to find out what this'll do to the atmosphere and the character of the canyon, how it'll change what a lot of people like about the canyon. These things are gone forever once a highway's put in. It cannot be retracted. So, this is something that I would offer, as a recent newcomer to the area, and having seen drastic changes occur, and it's very difficult to predict. People very often take it lightly at first. And, I think that significant visionary effort on the part of this project would be to look at community impacts. And I notice the only thing that was put in here concerning that had a big black X through it. So, I think that that is something that needs to be addressed. And, this is not a partisan look at whether the highway is good or bad, it's merely cautionary note that a big change is coming that should not be taken lightly, because there's a valuable resource out there. Thank you. (Applause)

DAN BARTSCH

Okay. On that point, Dan mentioned that, kind of in passing, that it is marked out. The commitment in that handout that's X'd out having to do with community development study was not quite accurate. It is definitely in the planning process that will be continued after this, I presume, I'm not sure, you might check with one of them out there, on that part of the final environmental document. The highway has been in contact with the study group, regarding that very subject. But, that statement in there was, is either misleading or the statement is not quite accurate, is the reason that was X'd out. It's in there and will be part of the study in some form. Okay? Lady here please.

NANCY OMHOLT

The Canyon Citizen Initiated Zoning Group was formed on June 7th of this year, quite simply

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17. **RESPONSE:** A comprehensive planning effort that is intended to provide the basis for implementing land use regulations for lands along the US 2 highway corridor between Columbia Heights and Marias Pass has been initiated by local residents. Recognizing the need for a growth management plan in this area, MDT and other agencies have agreed to contribute funding and/or in-kind contributions to cover the costs of hiring a professional land use planner and facilitate the planning effort. The planning effort would be managed by Flathead County.

by concerned citizens who felt it necessary to become a vital part of the countywide zoning effort in order to protect our interests in unique way of life in the canyon. Which, we had geographically had defined as the area from the Southfort Bridge in Hungry Horse to the county line at Pinnacle. We feel very strongly that a canyon plan must come from the canyon people. We have recently completed a current land use inventory consisting of approximately 70 color-coded section map which were purchased from the plat room by funds donated by our citizenship. We are presently working on owner-acclamation of that inventory. CCIZ, with it's membership, does not have the knowledge nor the experience to produce an unconfuted land use plan which will ultimately become a basis of our zoning. Thus far, we have had guidance from similar citizen groups, a former state legislator, Flathead Regional Development office, Flathead County Planning Board and Commissioners. We've also received support, and in some cases in kind from Glacier National Park, US Forest Service and Flathead Economic Development Corporation. The further we progress, we realize it is this cooperating effort that makes, or actually that affects our success. We have neither the time or the resources to maintain polarity. It is time for the canyon to be considered a thriving Flathead County community. There are many voices here wishing to be heard as just that, not as a special interest community, but one who is realistic enough to know that some development will occur. And, in order to place ourselves in that correct posture to guide and manage that type of change, we have to focus on land use planning now.

(Applause)

DAN BARTSCH

Okay. Thank you. I guess that kind of addresses what this gentleman was asking for. Okay. Excuse me. You'll be up next if you Yes ma'am.

SHARON STRATTON

For the record, I'm Sharon Stratton, Flathead County Commissioner for the northern part of the county. This afternoon at 1:00 o'clock we met with people from the Montana Department of Transportation and Nancy Omholt and Gil Lusk and quite a few people, a Carol Daly from the economic development group, and we will be sending a letter requesting that

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18. RESPONSE: Please review the response to transcript comment 17 above.

SHARON STRATTON

the applications for this process, some land use planning, be helped out through the DOT with a grant of approximately \$40,000. We don't know how much we're going to be able to get, but we're going to try and get as much as we can in this area because is critical with the new road going through. We feel, as County Commissioners, that the infrastructure is very lacking in the county, we need safe roads, and we need them as soon as we can get them. The less delay we have the less cost it's going to be to all of us. We do want preserve what we have, though. That's very important. Thank you.

DAN BARTSCH

Okay. Thank you. The gentleman here please.

BILL DAKIN

I didn't really come to make a comment, but when I saw that big black X, I was kinda chilled. My name is Bill Dakin, Corum resident, Columbia Falls businessman and canyon delegate to the Planning Board. I am not here to comment on the merits of the design. I would leave that to others. I am concerned that the improvement as Sharon Stratton and the zoning group as spoken to, is going to have some serious consequences. I think that those of us who live in the canyon are already in a position where we're starting to think that within two or three years, we will be peeking from behind bungee jumps and dodging helicopters and possibly finding a hard place to call a residential area up there. Most of the growth that is going on is soft and slow, but it's going on. Four years ago we opened a new consolidated school with two extra classrooms. It's now full to capacity. Most of the visible growth is been in the business sector along the highway and is certainly an impetuous for the land use planning initiative that's already underway. But, always, in the folklore of the Flathead Valley, the thing about living in the canyon that kept people from doing it was that road, that incredible, difficult obstacle of a road. And, I've kind of hidden up there for years rejoicing in that folklore thinking that, well, the world isn't going to get me. I'll never be crowded up there.

But, now, I think that we have to look, not only at the sprawling and sometimes undesirable strip development along the highway, that the business climate encourages, we're going to have to deal with uncontrolled, random subdivision and the kinds of residential sprawl that will come

19.

RESPONSE: Since the public hearing, MDT agreed to provide \$20,000 in funding to Flathead County to assist in completing the planning effort for communities along the US 2 corridor. Another \$20,000 will be made available to Flathead County in the form of a loan, if additional funds are needed to complete the planning project.

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20.

RESPONSE: Please review responses to transcript comments 17 and 19 above.

20

BILL DAKIN

hand-in-hand with simply being a more convenient place to live. Look around you. Look between the Blue Moon and the airport and see what happens when there are no controls. If you think that pretty, then you don't know what I'm talking about. If you're a little bit disturbed by what you see, then it's time that we looked ahead and tried to manage the growth that is probably inevitable by planning and eventually some land use zoning. I am really upset to see that X here. I think that that indicates that there is some reverse momentum somewhere in the Department of Transportation bureaucracy. You have mitigation funds, the construction of this particular road design, or any road design up there, is going to have significant land use impacts. I request and urge the Department of Transportation to apply their mitigation funds toward long-range planning by helping to fund the citizen's zoning effort there. (Applause)

DAN BARTSCH

Okay. Fine. Thank you. The gentleman on his way up. Did you have a comment too? Okay. We'll have him speak and then...Yes sir.

RON RIDENOUR

My name is Ron Ridenour and I've lived here all my life. My grandfather homesteaded in 1915 up . He wrote a neat little story about his days. And, he came out in a wagon and he went across through the canyon in a wagon pulled by horses the first time. Wrote about it in here. And, it was quite an experience. And then, he bought a Ford and he started driving through on that same stretch of road. And he writes about that. And, one time he was sliding down a steep incline and it was, he starting sliding and lost his magneto because he stalled his motor, his lights were hooked up to the magneto, so all of a sudden, he was in total darkness sliding down this incline, and he ended up in a ditch on the side with his old Ford with his wife and loaded up with vegetables and stuff and taking them home, stuff for the winter. He then, towards the end of his story, I want to read from it. He says, "We liked the wild, the untamed and untouched. A few miles away still is forest as primeval as when Columbus discovered America. When the mood is upon us and we wish to renew our contact with the primitive half, an hour in the car will bring us to isolation as solitary and beautiful and

21

21. RESPONSE: Please review responses to similar comments made in Mr. Ridenour's written comment dated 12/18/92 presented previously in this document.

romantic as the world provides, and in it we may lose ourselves, shed the terrors of the day and recall those days 21 years ago when we built our home in the wilds. Sometimes we stop in Badrock Canyon and walk the crooks and steeps of the precarious road we use to travel or climb the half-obliterated spar of the trail which winds up over the mountainside which served the pioneers of an elder day and before them was a warpath for the aborigines. From the vantage point along that higher trail, we watch the traffic sweep along the smooth oiled ribbon of highway below. How quiet it is. How small and far away those cars. Then in fancy we drop back 40 years and hear the shouts of men that creek and groan of tackle and loaded wagons as laboring men and desperately straining horses struggle to bring their loads to the summit of the last steep climb and let them down on the other side with the long ropes secured to the rear axle and snubbed around a stump." There are three chapters in the history of human progress carved in the wall of that old canyon in those three roadways, and the canyon itself is a fair cross section history of the making of the world. It's sacred, magic spot and it shouldn't be just blasted away because we need a new road. Perhaps there's a way to slow the traffic through that magic spot. A 45 mph seems to make more sense to me there than from the top of the hill between Hungry Horse and Packer's Roost on a huge, wide four-lane stretch of road. There are some areas that were left out, it seems like, in the Environmental Impact Statement. I have a few photos that I'd just like to pass on to the people. And, for some of the people who have driven through that area all their lives and for a long time, or for however long they've been here. There's a plaque there and it says "This spring is dedicated to the memory of Walter H. Griffin and Perley N. Bernard who, as President and Secretary of the Kalispell area Chamber of Commerce, started and carried forward the movement to establish this highway across the Continental Divide." This plaque is going to be moved to the new park and I don't know what they're going to change but they'll change the plaque to comment on something other than the spring that the plaque is referring to or not, but probably not. Our history is very important and we'd better be very careful with it. (Applause)

22

22.

RESPONSE: The text on page V-13 of the Draft Section 4(f) Evaluation indicated that the plaque would be moved closer to the spring and fountain, not to the replacement park site. Your comment and a comments from Sharon L. Willows indicate that the plaque refers to the spring at the west end of Berne Memorial Park. The text of the Final Section 4(f) Evaluation has been modified to indicate that the plaque refers to the western spring.

Remounting the plaque at a similar location on the newly excavated cliff face can be included as a special provision of the contract for the proposed action.

DAN BARTSCH

PATRICK HEFFERNAN

Okay. Thank you.

Good evening. My name is Patrick Heffernan and I live in Martin City. I've been working with Citizen Initiated zoning group since the inception this summer. I'd just like to go over some of the things in this Environmental Impact Statement that show the need why we need to have long-term land use planning done now to this area before it's too late. These reasons are obvious if you read through this whole document. The first one is page I 13, paragraph 7. It says here the highway provides the primary access to Glacier National Park at West Glacier, and nearly 40 percent of the visitors use this location. This is the busiest entrance to the park and that's the way all the traffic, well most of it, is going to come in there. If you go down to the paragraph that says 'Economic Development,' it states here that Flathead County is one of the fastest growing regions in Montana and relies heavily on tourism for its economic wellbeing. This is being encouraged by various promotional efforts such as the Trail of the Great Bear and other things. And, by this highway reconstruction, I think we're going to encourage even more use of the area, there's going to be more people moving in, there's going to be more pressure on the land as far as for providing residents and providing sites for commercial business. At the moment, the unincorporated areas of Flathead County, there are no land use planning controls as such apart from the subdivision review process, then any review from the Public Health Department. What we want to do with our effort is get some sort of land use planning outline that we can present to the County Commissioners and adopted as a land use control system before everything is strip developed. Thank you.

DAN BARTSCH

Thank you. Two or three from this planning process which is underway. Anybody else have any particular concerns. Gentleman here please.

JERRY RANDOLPH

My name is Jerry Randolph and I've ...

DAN BARTSCH

Excuse me Jerry. Would you please move and use the mike? I want to make sure your comments are recorded.

JERRY RANDOLPH

My name is Jerry Randolph and I moved out here last fall from Minnesota. And, what

23

23. RESPONSE: Please review responses to transcript comments 17 and 19 above.

JERRY RANDOLPH

attracted us to this area is its beauty, its historic significance. I live up in West Glacier and as I drive down to my workplace in Columbia Falls, the Berne Park area is a pleasure for me to drive. I realize that that can be a potential traffic hazard. I look back at my residence previously in Duluth, Minnesota and I experienced some construction as far as highway interstate going through our immediate downtown area, highway construction going up the North Shore of Minnesota along Lake Superior from Two Harbors on up towards Silver Bay. The local community people had a foresight enough to make sure that their areas of historic significance were left as much as can be intact. When they put the interstate through our immediate downtown area, people had enough foresight to preserve that area for future generations and they utilized a series of tunnels, overhead passes, to move around such places along the Lake Superior area, Leif Erickson Park, some historical older buildings of that community, along the north shore north to Two Harbors, Minnesota where that parallels Lake Superior. They also experienced a situation like Berne Park where it was a traffic hazard, a lot of accidents and the Minnesota Department of Transportation did careful planning and utilize series of tunnels to straighten out the road yet to maintain historical overlook and planning of the interstate through downtown of Duluth, Minnesota, utilizing modern technologies to where those road designs, not only reduced traffic hazards but also really improved the aesthetics, and they were recognized for their achievements of preserving of much of the local history as possible. So, my concern is, let's take some time and understand what historical value this area has. Once it's gone, it's gone forever.

DAN BARTSCH

Okay Jerry. Yes ma'am. Right here in the black and white sweater.

MERRIEL JOHNSON

My name is Merriel Johnson and I live up at Lake Five. I also travel this road twice a day. I enjoy the canyon, I enjoy slowing down, it slows my day down. There is nothing I can say bad about it. I know it's a traffic danger because everybody's in a stinking hurry anymore, and I don't know why they came to live here if they were in a

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24. **RESPONSE:** Information on these projects was obtained from the Minnesota Department of Transportation and reviewed for the EIS.

25

25. **RESPONSE:** Based on public comments about incorporating a tunnel through Badrock Canyon, the Minnesota DOT and other highway agencies in the states of Colorado, California, and Washington were contacted to obtain information about design considerations and the costs of tunnel construction. The final EIS contains a discussion of these findings.

A brief summary of the findings are also presented in the response to comment 4b in correspondence dated 12/21/92 from Sharon L. Willows presented previously in this document.

hurry. Go back to L.A. folks. Anyways, in 1974, our recent forefathers of this state had the wisdom to incorporate something into our State Constitution and that was for the Legislatures to protect anything that was No. 1, an established park already, geologically, unique, a scenic waterway, let's see, there's seven points there and, oh, cultural, which is the Indian, and I can't come off with the other ones. Anyways, Berne Park does qualify on every single count. And, the Legislature is required by our Constitution to protect an area if it qualifies for one of these. So, I think we better be looking at the legalities behind what's happening to Berne Park before we just blow it up. Also, they want to take down the Cottonwood trees and eagle perches. It's just no big deal to these guys

Okay. Go ahead.

DAN BARTSCH

SHARLON WILLOWS

Hello. I'm Sharon Willows, Certified Paralegal and I'll be presenting some technical material tonight on the Environmental Impact Statement. And, however, to begin with, I'd like to impress upon you that there are alternative technologies to bring the four-lane highway through the canyon and to protect the resource. And, it's very unfortunate that these state-of-the-art technologies have not been looked at yet, because that is supposed the duty of the Department of Highways, not for the public to come up with these state-of-the-art technologies.

And, it would be good to look at these things without animosity, trying to get a hate campaign going, and that's what this process is. Is to look at the alternatives and try and meet all of the objective for the future. And, I wanted to just bring your attention to the tunnel construction alternative may seem a little bit grand, but we've got the BPA, the construction, new construction power lines over the canyon. It's a reasonable alternative to consider putting two lanes and a tunnel through the canyon at approximately the area where the easement is now. And, it'd be approximately half a mile. It would straighten the alignment, it save driving time, it would reduce long-term maintenance, reduce the visual obtrusion of BPA power lines by burying them in chambers alongside the traffic lane, it would save the historic

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26. **RESPONSE:** The comment appears to reference Section 4(f) of the Department of Transportation Act. Section 4(f) permits the use of land for a transportation project from properties like Berne Memorial Park only when there is no feasible or prudent alternative to such use and when the project includes all possible planning to minimize harm to the property resulting from such use.

The Draft Section 4(f) Evaluation included with the Draft EIS was prepared because Berne Memorial Park qualified for protection under Section 4(f). Other properties like historic and prehistoric sites, public multiple-use lands, the Flathead Recreational Waterway, the Middle Fork Recreational River segment of the Flathead Wild & Scenic River System, and the South Fork Bridge were initially considered for protection under Section 4(f). For the reasons explained on page V-3 of the Draft EIS/Section 4(f) Evaluation, these properties were not determined eligible for Section 4(f) protection.

27

27. **RESPONSE:** Please review the responses to comments 11a, 13, 17, 18, and 19 in correspondence dated 12/21/92 from Sharon L. Willows presented previously in this document. These responses discuss Berne Memorial Park's features and effects on riparian habitat in Badrock Canyon occasionally used by bald eagles.

28

28. **RESPONSE:** Please review the responses to comments 4a and 4b made in your correspondence dated 12/21/92 presented earlier in this document. These responses discuss additional investigations of a tunnel through Badrock Canyon and the possibility of incorporating BPA facilities within a tunnel.

Berne Park and the rugged the beauty of the scenic treasure for tourism and marketing. These agencies can pull federal money and this is something that should be looked at in this EIS process. That's what this process is for, is to look at all the alternatives that can meet the objectives and resolve controversy and resolve the controversy. I've been referred to appropriate types of tunnel construction to look at. One of that is the daylight portal tunnel with striking examples on US Highway 84 in Oregon and old US 2 in Washington. Its novelty, safety and low winter maintenance is an attractive consideration that business people and residents may wish to think about. And, it's also reasonable for consideration under NEPA law because, actually, the Environmental Impact Statement makes false statements that it has considered the tunnel when, in fact, they haven't considered it. So, maybe we can get on with the duty, the agency's duty of examining other reasonable alternatives. And, the other one, that it hasn't, actually, three other technologies, state-of-the-art, that have not been considered that could help save Berne Park. One of them is the tunnel. In fact, if a tunnel were used, the existing historic road could be two lanes west and that piece of roadway would meet the state's requirements for the State Historic Roadway Program. You have two lanes east straight, safe, through the mountains, with the power lines, two lanes west, historic roadway that can be used for turns and the marketing. I want to bring your attention to a recent marketing scenario that was presented in the Daily Interlake. Welcome to Wilderness and Industry, Columbia Falls, Gateway to the Park. Here they speak of visitors enjoy a trip to the spectacular Badrock Canyon, blah, blah. Now, this kind of thing, this is just what's happening, this spectacular nature of that resource is going to be blown up. Just hope you understand that and there are ways to preserve and save it.

And, another one of those techniques is the Cantilever methodology where a bridge substructure is actually built out over the river with the use of piers rather than rock fill. And there's a good example of that, and I believe I've got my information right, is Highway 200 in Hope, Idaho. And, another, the other alternative technology that hasn't been

29

29.

RESPONSE: The use of a cantilevered roadway in the vicinity of Berne Memorial Park has been investigated for the Final EIS. Text has been added to Part II: Alternatives that describes the costs and impacts of incorporating a cantilevered road and other design features.

considered that could draw the highway away from the park is reinforced earth construction, and I'll mention a couple of federal highway reports about that in a few minutes.

Next I'd like to just review with you a scenario of available tourist books that are sold throughout Montana that feature Badrock Canyon. I mean, this is, I just want you to realize the resource here that is, that proposed to be demolished. Alright. Roadside Geology is sold in most of the stores. Badrock Canyon is featured as a stop to, to view unique geology and is featured in this book. This book, and that's what the sign is all about, is the historic site. Montana's historical highway markers. And this one was Roadside Geology of the Northern Rockies, number one book. Number two book, Montana's Historical Highway Markers by Glenda K. Bradshaw. And that takes visitors to Montana on a scenario throughout the state and Badrock Canyon is stop number 89 featured here. Here's an interesting book demonstrating the historic significance of Badrock Canyon, is Stump Town to Ski Town written from the Whitefish people. They've got actually four old photos in that book of Badrock Canyon backdrop for the valley being a significant landmark to the valley, as an entrance to Glacier National Park. Oh, and I've got here, Homes of Glacier Park, The Legend of Hungry Horse and Other Verse by Jim Ridenour, Ron read us some of that tonight. Okay. Now, again, I'm getting into some technical material here, this is comments on the EIS and that is what I've prepared. The first thing I want to comment on is the Section 4F Statement which is the legal document that has to be prepared whenever the Federal Highway Administration plans on taking public park land for the purposes of highway construction which is what is going on now. And, what I see is that Section 4F Statement is full of serious deficiencies. Number one reason: The entire Section 4F Statement is performed outside of new explicit new regulations for "constructive use of public parks" at 23 CFR 771.135 Subsection P. Subsection P is a rather new regulation, 1991. However, the Department did not integrate that into their analysis of the Environmental Impact Statement. And, this is required by law. This is what

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30. RESPONSE: Please review the responses to comments 1a, 5, 6a, and 6b made in your correspondence dated 12/21/92 presented earlier in this document. These responses provide additional information about the highway marker in Berne Memorial Park and discusses the designation of Natural and Historic Landmarks.

31

31. RESPONSE: Please review the responses to comment 23b made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses "constructive use" as referenced by 23 CFR 771.135.

they're supposed to do. This is agency duty. And Number two: Instead implementing 4F regulations for constructive use, the EIS devised what I call a bogus "unused park analysis." The 4F Statement has arbitrarily decided that recreational use occurs on only 1.8 acres of the 8.4-acre Berne Memorial Park. We feel that that's false and that all 8.4 acres are, in fact, used.

Item 3: Functions at Berne Park are understated and misrepresented. A primary function of this park is cool shade provided by large trees. The EIS presents non-compliant methods to claim the shade trees are "unused park areas." That is what is going in the attempt to blow up Berne Park. Let's see, as far as functions of Berne Park, to justify their replacement park upon the hot, dry, noxious weedfield, the EIS wrongly assumes that a major function of Berne Park is rafting access. This isn't true. I've spent 32 hours taking visitor use data at Berne Park over the last two years and persons accessing the river with rafts from Berne Park are very rare, in fact I only saw one during that time. Photography, fishing from fisherman's rock, stopping to rest in cool shade, getting a drink of water, picnicking, reading the exhibits, wandering up the mountain, flea market sales and wildlife viewing are the activities at Berne Park. In fact, this EIS failed to disclose that Berne Park is even a recreation site on the project. On their list on page, Chapter 3, page 25 of the recreation projects on the project, they left Berne Park off the list.

Number 4: The EIS does not meet 4F information requirements to define use. First, the EIS fails to honestly to disclose Berne Park as a project recreation site. Then the EIS preparers do no research. That's their job on this project. Do no research whatsoever on visitor use. Then they misrepresent and throw out the research that was done by CCP Research showing significant high public use at Berne Park. And that's Chapter 5, Page 6.

of visitor use recordings at Berne Park during peak summer traffic days and hours, and that's the summer of '86, '88 and '89. Results showed an average of 52 stops per hour during peak summer traffic hours. The EIS arbitrarily states that CCP Research is

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32. **RESPONSE:** Please review the response to comment 12e made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses the basis for determining the "active" use area at the park.

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33. **RESPONSE:** Please review the response to comment 20 made in your correspondence dated 12/21/92 presented earlier in this document. This response indicates that Berne Memorial Park has been added to the list of recreation sites presented in Part III of the EIS.

34

34. **RESPONSE:** Please review the responses to comment 21a and 21b made in your correspondence dated 12/21/92 presented earlier in this document. These responses discuss the uses of Berne Memorial Park and the counts made by the CCP.

unverifiable and insupportable when in fact it's both. I mean, if they want to do some research and find out what's going on there, we encourage them to do so. But, for a public group that did an adequate job of doing some good research, to just blow it away is what's called bad faith under the law. Okay.

Number five: Replacement park does not replace the unique features and functions of Berne Park. I mean, it's hot, dry, there's no shade, it's a steep bank down to the river. It doesn't replace the features of Berne Park.

Number 6: Section 4 of Evaluation Features. What I it to be a bald faced lie. Under Common Impact, Chapter 5, Page 9. All of the action alternatives cause near total restriction of access to this spring, their stone fountain and the picnic sites. In fact, they've got a one-lane little deal in there that you're going to have to follow in next to the car behind you. There's no parking, there will no longer be any free access to any of the park features. Shade trees are scheduled for removal.

Number seven: The EIS photos of historic plaque and exhibits are fuzzy and unclear and unreadable. Further the historic issues here at the park.

Number eight: Avoidance alternatives have not been considered, and that's what I spoke of before, is that state-of-the-art technology in highway design and construction that have not been considered yet. And, that's really the crux of this issue. It's for the state to keep up with these technologies. Not for little people down below giving attacked constantly because the state will not keep themselves abreast of state-of-the-art technology to preserve resources that are valuable for marketing and tourism. In fact, in this EIS, there's only one alignment in one has been considered. That's the bottom line.

So, there needs to be a further range of alternatives to be considered. The tunnel, the cantilever concept has never been considered as an alternative. The tunnel has never received EIS consideration either. And, blah, blah, blah. And, the bottom line

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35. **RESPONSE:** A similar setting for Berne Memorial Park does not exist elsewhere in the area nor can it be duplicated at the proposed replacement parkland. The replacement park area will be designed to incorporate enhancement measures like tree plantings and the elimination of noxious weeds. Please note that only conceptual designs for the replacement park area have been prepared to date. The replacement parkland will be improved substantially beyond its present condition.

36. **RESPONSE:** Please review the response to comment 24 made in your correspondence dated 12/21/92 presented earlier in this document. This response indicates that the impacts to features of Berne Memorial Park were disclosed in the Draft EIS/Section 4(f) Evaluation.

37. **RESPONSE:** Please review the response to comment 28a made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses the quality of photos of features in Berne Memorial Park.

38. **RESPONSE:** Three alignment options for US 2 through the Berne Memorial Park area were considered during the development of the EIS. One alignment attempted to minimize the impacts on Berne Memorial Park; a second alignment was developed to minimize the impacts on the Flathead River and associated riparian areas; and the third alignment attempted to balance unavoidable impacts to both features in Badrock Canyon.

The alternative that minimized the impacts to Berne Memorial Park would essentially require the construction of a bridge more than 2,000 feet in length and produce significant impacts on the Flathead River and riparian vegetation. The alignment option to minimize impacts on the river would require excavation of both cliffs at Berne Memorial Park and would eliminate of the fountain. The potential impacts of both of these alignment variations were judged to be unacceptable.

39. **RESPONSE:** Please review the responses to transcript comments 28 and 29 above. See also the response to comment 5 made in your correspondence dated 12/21/92 presented earlier in this document. The response describes how a tunnel through Badrock Canyon has been further considered in the Final EIS.

is that Badrock Canyon resource qualifies as a national landmark. What is the worth of this resource for tourism and marketing and, let's take a look at this and think about it before blowing it up. That's what the EIS process is for.

Number nine: The criteria for "active recreation area lost" on Table 16 is bogus and is not in tune with new constructive use analysis procedures. Also, where were the noise tests taken? At picnic areas and the trees are right next to the traffic. The noise procedures need disclosure.

And, Number ten: Impairment to the characteristics that make the site historic have not address, and that's a basic element of Section 4F planning requirement. I think there needs to be a cliff mitigation plan to determine whether or not some mitigation cannot drummed up to save more of the distinctive, spectacular cliffs at Badrock Canyon. The EIS admits the cliffs at Badrock are distinctive and the quality of view the highest at Badrock. Mitigation plans are needed protect the distinctive cliffs at Berne Park. The EIS provides no mitigation whatsoever for the historic cliff features at the park.

Floodplain approved design technologies are available that have not been considered. And, I refer the state to Federal Highway Design Report DPHWA-DP-18 and DP-68-1. The cantilever technology has not been considered either. In fact, the irony of all this is this year Columbia Falls City tried to get \$10,000 federal money to build a manmade waterfall, and here we've got a plan, plan to blow one up. So, just think, I mean, down the road this might maybe what'll be happening if some group will want to build another to blow up the one we've got, to replace the one we've got.

The second issue I'd like to address is the fact that PREHISTORY has been omitted from the EIS. In 1982 a prior EIS denoted Badrock as a sensitive area because of its importance to native americans, bald eagles and Berne Park. Now, this 1992 EIS denies and omits that importance. PREHISTORY is another of Badrock's outstandingly,

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RESPONSE: Please review the response to transcript comment 31 above.

As the Draft EIS indicates on page III-9 and IV-13, existing noise levels were recorded at four residences and at Berne Memorial Park.

41.

RESPONSE: A discussion of measures that will be incorporated to mitigate visual impacts due to the excavation of the western rock outcrop at Berne Memorial Park was added to Part IV of the Final EIS.

42.

RESPONSE: The use of a cantilevered roadway in the vicinity of Berne Memorial Park has been investigated for the Final EIS. Text has been added to Part II: Alternatives that describes the costs and impacts of incorporating a cantilevered road and other design features.

remarkable value under national landmark law and national wild and scenic river act. PREHISTORY has been omitted from this EIS entirely. This deficiency is validated by the State Historic Officer on Chapter 6, Page 38. The whole question of Badrock has been left unaddressed and is omitted from the EIS. The EIS wrongly claims that there's no evidence of battles. To address that statement, on July 29, 1991, the Blackfeet Cultural Director provided oral history evidence of significant in tribal warfare that occurred at Badrock Canyon. This battle occurred around 1850's and contributed to ultimate extinction of a band of southern who had failed to keep west side tribes and white men out. The Blackfeet controlled this westgate Badrock Canyon for about 150 years, primarily 1750 through 1850. Badrock Canyon was a strategic location for warfare, control of access to historic travel routes. Badrock is the west entrance to the Bear or Marias Passes, Red Eagle and Cutbank Passes to eastside buffalo hunting grounds, and the sacred mountains of ancient backbone of the world, now Glacier National Park. This affidavit will be included in landmark, national landmark application papers being made now. And, we remain very concerned about MDT's disrespectful and ethnocentric activity to dissect and disregard sensitive native oral tradition and concerns.

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43. RESPONSE: Please review the responses to comments 1a, 6a, 6b, 12c, and 12d made in your correspondence dated 12/21/92 presented earlier in this document. These responses provide additional information about the highway marker in Berne Memorial Park, the designation of Natural and Historic Landmarks, and past and ongoing coordination with Tribal Culture Committees.

44

44. RESPONSE: Please review the response to comment 1b made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses why the Berne Homestead was found to be ineligible for the National Register.

Not only was the whole question of Badrock Canyon omitted from the HRA Cultural Report, but Billy Berne's actual homestead was also eliminated while the study instead focused on the dump. HRA's report also missed Billy Berne's pond and water and system still intact. HRA also missed the memorial alliance fountain that is in operation. Other historic significances have been omitted. For instance, in 1905, Mike Berne was responsible for rescuing

had, this is one of the reasons they didn't have any expanded history in the EIS is because the Department of Highways decide there was nothing significant there. The fact of the matter is that HRA, the consultant that received the contract to perform the cultural survey using tax funds did not perform a historic literature as required by contract. So, pretty much what I'm saying here is the

government and consultants get paid big money to do this work. So, the problem is to get it done and get it done adequately and right as required by law rather than doing a schlocky job, suffering the consequences and then pointing your finger at some little person that's trying to get the federal and, the law of our land implemented.

Okay. The project, the EIS also misrepresents geology, which is another unique feature under wild and scenic rivers and the project grade. Geology is another one of the seven outstanding and remarkable values at Badrock that make it eligible for protection under Wild and Scenic River Act. The EIS omits information on geology and

one picture in this EIS of Badrock Canyon. Not one. In fact, if somebody was reading this EIS from some other place, they'd look through that book and they wouldn't know Badrock Canyon, what it was at all because there's not one photo. The EIS fails to disclose project grade which is a very important factor in highway designing. Columbia Heights has a elevation of 3,100 down to 3,072 on the Monte Vista Flats and then 3,020 at Fisherman's Rock then back up to 3,001, and that's an interesting fact about this, this project geology. And, that's the reason for these EIS's, to get the geology, all the various aspects about the planning document in, it should be in the Environmental Impact Statement. It should be accurate and correct.

I've got just a couple more things here. On this one, the overall failure to apply legal planning guidelines and regulations. I think you're going to see with the next federal administration more of an emphasis on this because this is what enhances these documents coming out right in the end. As if the guidelines for implementing the federal laws are used by the bureaucracy. In this case, you've got planning and the guidelines are being ignored.

Number one: Wild and Scenic River Act guidelines. The west gate of this canyon is not part of Columbia Heights and this is what this EIS tries to establish. The undeveloped west canyon entrance at milepoint 140.1 to 140.5 is part of the canyon river corridor as defined in Wild and Scenic River Act

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45.

RESPONSE: Please review the responses to comments 2 and 3 made in your correspondence dated 12/21/92 presented earlier in this document. These responses indicate how terrain and grade was considered in the highway capacity analyses. Many maps in the Draft EIS show surface elevations in the project area.

guidelines. This undeveloped west canyon entrance is not part of the Columbia Heights landscape unit, a commercial strip area. This EIS represents a concerted by federal officials to ignore river informational study requirements in this EIS process. They're at 1982 guidelines. Description of the river area is a requirement of 47 Federal Register 39454-61. New 1982 final guidelines for eligibility for management of river areas. The information requirements have not been performed yet, even though this Wild and Scenic River issue and its new guidelines were identified as significant during the scoping period.

Number two: The EIS fails to apply National Register Bulletin 22, evaluating properties that have achieved significance within the last 50 years. Bulletin 22 should be applied to Berne Memorial Park per se and to his collective memorials including the fountain.

Number three: The 1991 Surface Transportation Act, the Wild and Scenic Rivers Act, and NEPA require consistency with existing land use plans. The 1987 Flathead County master plan discourages strip development at rural area at the west entrance to Badrock. And, this should be integrated into the plan, the EIS consistently says that the Department does not have the power to do that but they do. The state has power to do access control, and that's why access control planning is needed, something that substantive, that shows that action has been taken to control strip development at the west entrance to the canyon and, therefore, the need for access control.

By the way while, I get rather frustrated sometimes at being blamed for delay. But these kind of things were scoped years ago, it is their duty to do it and it's not done, and I think the reason it doesn't get done is because they know they know they got a scapegoat, somebody to blame, somebody little on the ground. And, these things should be done in the governmental process. And, that's what they're, every potential in the world to have that done in the EIS process and have that final Environmental Impact Statement being a sufficient document if these rules are applied.

46. **RESPONSE:** Please review the responses to comments 35 and 41 made in your correspondence dated 12/21/92 presented earlier in this document. These responses describe the basis used for establishing landscape units and Wild & Scenic River issues.

47. **RESPONSE:** Please review the response to comment 53 made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses the applicability of National Register Bulletins #15 and 22.

48. **RESPONSE:** Please review the response to comment 14 made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses the Access Control Plan prepared for this project.

A comprehensive planning effort intended to provide the basis for implementing land use regulations for lands along the US 2 highway corridor between Columbia Heights and Marias Pass has been initiated by local residents. Recognizing the need for a growth management plan in this area, MDT and other agencies have agreed to contribute funding and/or in-kind contributions to cover the costs of hiring a professional land use planner and facilitate the planning effort. The planning effort would be managed by Flathead County.

46

47

48

Number four: Extensive new 4F regulations for construction use at the park. 23 CFR 771.135 Subsection P again have not been implemented. And, believe it or not, I've been trying to get these guys to do it for years. Some of these issues have been brought up for years and there's still no action.

49

49. RESPONSE: Please review the response to transcript comment 31 above.

And, neither did the EIS preparers utilize recommended 4F advisory T 66 40.8a for information requirements. And, that's the bottom line. That's what an EIS is information, supposed to be correct information. That's why the government puts out guidelines so that bureaucracies will know how to get the right information in the document.

50

50. RESPONSE: In addition to FHWA Technical Advisory T6640.8a, other guidance materials provided by the agency regarding Section 4(f) requirements (including provisions on constructive use) were consulted extensively during the preparation of the Draft Section 4(f) Evaluation.

Number five: Failure to develop historic context and perform adequate field surveys. And, in the final EIS I asked the Department to please defer to 1983 Archaeological and Historic Preservation Federal Standards and Guidelines, 48 Federal Register 44716. In this case you've got an inadequate HRA Cultural Report. They didn't see the pond, they didn't see Billy Berne's pond or water system, they didn't see the fountain, they're just sort of colluding behind the scenes to remove as much disclosure of historic integrity as possible.

51

51. RESPONSE: Please review the response to transcript comment 44 above.

Number 6: Ten tests for determination of significance. NEPA outlines this. That's the National Environmental Policy Act. And, that's at 40 CFR 1508.27. I was appalled at the Highway Department's arrogant defiance of legal compliance in the Highway Department's EIS letter, Chapter 6, Page 41. In this case you had arm chair bureaucrats and consultants from Helena and Missoula who did not conduct a local historic literature search. Then, arbitrarily decide the Berne brothers or anything else in Badrock really isn't significant. And, I emphasize the significance and integrity of the homestead has not been considered. And, this was, these issues were brought up years ago, and what you've got is agencies delaying for years and years their required mandated duties.

52

52. RESPONSE: Please review the response to comment 55 made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses how the ten criteria for significance listed in 40 CFR 1508.27(b) were applied to the proposed action.

Number seven: The rural west entrance of the canyon is an eagle foraging area, a recognized one. The EIS is in error when

they make it part of an urban landscape unit, Columbia Heights. Preparers of this EIS ignored the Endangered Species Act definition of action area at 50 CFR 402.2. And, the bottom line is that numerous federal laws the NEPA, the ISTEA, the 1970, 1991 Surface Transportation Act and the Flathead master county master plan all provide criteria to define the landscape areas. The EIS perpetuates urban five-lane right up to the entrance to the canyon where it certainly isn't needed.

53

Well, I've got a little bit more here and that is AASHTO compliance problems. AASHTO is American Association of State Highway Transportation Officials. The guidelines they are supposed to be using. Number one: The five-lane urban development, rural area. This is not consistent with AASHTO. A four-lane is adequate with left turn lanes where needed for access control. And, by the way, four accesses per mile was offered as a reasonable mitigation to resolve the south of Kalispell case. Now, I feel that if it was reasonable there, it's reasonable out here too. That four accesses per mile. And, the state-of-the-art is to bring those accesses together with service roads behind the highway. Then you don't have just a mass of congestion in the future. Instead you have the highway and then a system of service roads and four accesses per mile, for instance. But, this would only be appropriate for the rural areas, not urban area in Columbia Heights.

54

Number two: The proposed major recreational intersection between mile 140.0 and mile 140.3. They've got a major urban intersection planned for a hill and a curve. This is not good, this is not based AASHTO, and I think that whole idea should be eliminated. Bring all the accesses back up on the hill closer to houses accesses and do away with any kind of idea to have a huge, big urban intersection on that hill and curve. It's not a good idea.

55

Number three: Capacity and traffic analysis for this project fail to consider grade in highway design as a required for mountainous terrain. The EIS fails to reveal this entire project as a 100-foot elevation drop from Columbia Heights down to Badrock back up to

56

53. **RESPONSE:** Please review the responses to comments 35 and 56 made in your correspondence dated 12/21/92 presented earlier in this document. These responses discuss the basis used to establish landscape units.

A discussion of why a four-lane with a center median/left turn lane has been proposed for the Columbia Heights to Berne Road area of the project is contained in the response to comment 2 made in correspondence dated September 21, 1992 from Jonathan P. Deason, Director, Office of Environmental Affairs for the U.S. Department of the Interior presented earlier in this document.

54. **RESPONSE:** An Access Control Plan for this project was completed in June, 1990. The text of Part IV and Appendix 1 has been modified to reflect the availability of this document. Because the real estate market in Flathead County is volatile and changes in land use could occur before the project is completed, the Access Control Plan will be reviewed before right-of-way acquisition begins to ensure that changes in approach needs can be incorporated into the design.

The Access Control Plan evaluated the approach needs for lands adjacent to the highway and recommended locations where access must be maintained and where approaches can be combined or eliminated.

The provision of service roads adjacent to US 2 along with a limited number of approaches on highway would provide operational benefits for the facility. However, the area impacted by such an action would be more extensive than just widening the highway. In addition to requiring more right-of-way and the associated relocation impacts, constructing service roads in portions of the project area where appropriate may also increase the extent of impacts to roadside vegetation, wetlands, and utilities.

55. **RESPONSE:** Please review the response to comment 27a made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses the proposed intersection at Berne Road and the replacement parkland area.

56. **RESPONSE:** Please review the responses to comments 2 and 3 made in your correspondence dated 12/21/92 presented earlier in this document. These responses discuss why rolling terrain and not mountainous terrain is the proper classification for the project area. The responses also discuss how grade was considered in the highway capacity analyses.

Hungry Horse. In fact, according to this EIS there's no grade whatsoever. It's a flat.

Number four: Blankenship and Lake Five turnout need remedial safety improvement project to implement left turn lane, and why wasn't it done in the first place? This is AASHTO federal design standards that weren't applied.

57

57. RESPONSE: The Blankenship and Lake Five turnoffs are not within the limits of this project.

Number five: Design of KOA Campground principles for priority arterial. I request immediate remedial action to implement two-foot painted median there and right-turn pullout for the campground and whatever else they might come up with to do away with that dangerous curve designed with, designed illegally against AASHTO compliance. In fact, sometimes I think they do that just so people with come back and blame you know who.

58

58. RESPONSE: The KOA Campground turnout is not within the limits of this project.

Number six: In fact, that entire segment needs analysis for special design expert for additional improvements to correct the fact that the Coram - West Glacier highway was wrongly designed to AASHTO interstate rather than primary standards. And, this is something that needs to come out some point and it's half of the reason that I get so much heat, it's because there's a continued attempt to cover up that major fact.

59

59. RESPONSE: The Coram to West Glacier segment of US 2 is not within the limits of this project.

Number seven: Modernization is needed now. This EIS provides for bridge building in 1996, but no highway improvement until 1997. So, since 1984, the coalition has every year systematically we ask for a modernization project. Modernization can be done without EIS's, without a bunch of fuss, and we're going to be going ahead with action on trying to get another one to be, to be implemented as soon as possible next summer. There are minor things of modernization that they could do to that highway right now that would upgrade it to minimum safety standards, and still they let it sit another seven years. And, so the point is, that a modernization project, safety improvement project is necessary now on Badrock/Monte Vista, and there should be shoulders added with slow lane traffic pullout. And, it Monte Vista, I think it would be perfectly reasonable to stick in a four lane passing zone with left turn lanes. Just stick in a one mile passing

60

60. RESPONSE: Your concerns for additional capacity and traffic safety will be incorporated into the final design of the proposed action.

zone and then that area can be retrofitted into the big development when it comes along. I think that that is about all I got. Oh, wait a minute.

Biological assessment comments. We have a goat on the front page and the EIS has a duck on the front page. Neither the feds or the state know what kind of duck it is. And here we have another document for this project featuring a goat. Why I get something significant for the project on the fronts of the documents. They're just spending all that money for a fancy deal. Okay. Now, on bald eagles, they left out and have hidden Riley McClelland's comments on this EIS. It's hidden away in this document, this document is not part of the EIS. And Riley McClelland's letter, expertise, involving expertise in the EIS planning process is part of the NEPA requirements. Instead, it is hidden away in a document that is not readily accessible to the public. Riley McClelland's document should be got out from under the table and applied. And, a few comments on the eagle analysis in the biological, this is a compliance document for Endangered Species Act.

Number one under Eagle. The habitat affected by the proposed action figure 4 is in error. Badrock Canyon's primary foraging and perching location is been omitted from Figure 4 and some from the EIS discussion of direct affects.

Number two: (end of tape 2, side 1) this, in fact, this consultant tried to say that Columbia, that Berne Park and the project was part of the Whitefish Range. I mean, you can see, what's the purpose of spending all this money on informational documents if the information is all wrong. And, that's the point.

Number three: The Fish and Wildlife Service recommended the final assessment should present a brief summary of what is known or available about present and recent winter use of Badrock Canyon by bald eagles. And, you should include quantitative as well as qualitative information. On January 1990, the coalition entered 71 pages of bald eagle sightings and behavior descriptions for Badrock Canyon use into project records. And, these were all sorts of people up the

61. **RESPONSE:** Mr. McClelland's concerns about the effects of this project on habitat used by bald eagles was considered by agency decision-makers and was part of the Biological Assessment, a supplemental document to the EIS, that was submitted to the USFWS. The Biological Opinion written by the USFWS (included on pages VI-63 through VI-70 of the Draft EIS) contains a quote from Mr. McClelland's letter. The agency wrote its Biological Opinion with the full knowledge of Mr. McClelland's concerns about habitat loss.

62. **RESPONSE:** Please review response to comment 17 made in your correspondence dated 12/21/92 presented earlier in this document. This response indicates that impacts to habitat for bald eagles in the area referenced by your comment were considered during the development of the EIS and in formal consultation with the USFWS.

63. **RESPONSE:** Please review response to comment 8 made in your correspondence dated 12/21/92 presented earlier in this document. This response discusses the proposed action's location in relation to Bear Management Units within the Northern Continental Divide Grizzly Bear Ecosystem.

64. **RESPONSE:** Please review response to comment 19 made in your correspondence dated 12/21/92 presented earlier in this document. This response indicates that the bald eagle observation forms were considered in the Draft EIS and Biological Assessment.

canyon that are collected over the years, their sightings on natural history field observation forms. What did the Highway do? They and their consultants made no use whatsoever of this project information, and to this day it's under the rug. In fact, the primary bald eagle concentration foraging area has been left out of this document.

Okay, just a few comments now Bear. There is evidence of activity. We've got to think of the future. We have a common ground situation. We've got animals that do live in the ecosystem as well as people, and maybe we could have a little bit of compassion in our hearts for how hard it is going to be for them to survive in the future. And, Badrock Canyon is one of the only forested, wooded areas left that links the northern Swan Range and the Whitefish Range. And, just a few comments about that. As far as the EIS, it's totally blown off the idea of any sort of bear management to maintain forested cover and do state-of-the-art conservation measures to help maintain the travel corridor there in the future. And, so number six item under section seven problem, is that situation two has been used as an excuse to avoid bear management for this river in connection between two mountain ranges in the biological assessment. That's some technical thing, but anyway, situation two does not apply to Badrock because the river corridor is eligible for Wild and Scenic River, therefore, wildlife is protected there and the project area is MA3. That means Management Area 3 which is non-game species once they took the bear off the hunted list, therefore, Columbia Mountain is supposed to be doing some management so bears can get across that road there.

And, errors in biological assessment. The consultant failed to disclose bear crossings that were entered in the NEPA records and makes false claim that there have been no sightings of bear on or near the section, blah, blah, blah. And, it's very frustrating, because there was numerous comments that had bear sightings on them, and instead they blew it entirely off and refused to consider those comments.

65

65. RESPONSE: Pages IV-32, IV-33, VI-36, and VI-76 of the Draft EIS disclose the management situation for the grizzly bear.

The USFWS agreed with the conclusion that the proposed action will not adversely affect the grizzly bear in its Biological Opinion contained in the Draft EIS.

66

66. RESPONSE: Please review response to comment 7a made in your correspondence dated 12/21/92 presented earlier in this document. This response states that the text of the Final EIS has been modified to indicate that grizzly bears have been sighted in the general area of US 2 between the House of Mystery and Hungry Horse.

The USFWS agreed with the conclusion that the proposed action will not adversely affect the grizzly bear in its Biological Opinion contained in the Draft EIS.

And, the biological assessment also arbitrarily decides that existing wooded cover closer to the highway is not important because there is no evidence of bear use. Another thing they did is they failed to use and apply expertise on bear management for the Hungry Horse area. Charles Jonkel has prepared several papers on the area, and the Badrock corridor is the last link for natural wildlife corridor between Swan Range and the Whitefish Range. What did they do? They wrote for, they had a list about this long of people they were asking for their information but they made sure they left Jonkel off the list. The consultant gives erroneous location for the project area. Trying to say that the project is in Whitefish Range.

And, another thing, the law for both federal analysis need under, the law for both federal projects are two federal projects going on now, not just one. It's the BPA power line project is ongoing on right now too. And, both federal agencies need to be informed that there are indeed two projects ongoing. They need to coordinate those projects and consider their impact simultaneously. But, anyway, thank you very much for listening to this. (Applause)

DAN BARTSCH

Okay. Thank you. You have a comment please. Yes Ma'am.

GLADYS SHEA

Gladys Shea, Columbia Falls. I've been a taxpaying, working resident here for 46 years. And, it kind of dates me when I say I was born here and my mother was in a wagon going over the top of Columbia Mountain with her head on the floor because she couldn't stand heights. I did hear Sharon mention something about a tunnel. I don't know how you could build a tunnel without blasting. I realize they built the waterline to Columbia Falls by hand. I don't think they'd build a tunnel by hand now.

And, also, what affect does that have upon the springs going into Berne Park. I do appreciate the fact that some people don't call it Bernee because it is not Bernee, it's Berne. That's about all I want to say. As a taxpayer, I am paying the Highway Department, I appreciate your having a hearing and I don't claim and intend to have any technical knowledge. I haven't had time in my life to

67. **RESPONSE:** Please review response to comment 7a made in your correspondence dated 12/21/92 presented earlier in this document. This response indicates that the opinions of wildlife management officials familiar with the project area were considered in the Draft EIS and Biological Assessment.

68

68. **RESPONSE:** Please review the response to transcript comment 28 above.

69

69. **RESPONSE:** A tunnel would be constructed by means of large equipment specially designed to bore through rock.

70

70. **RESPONSE:** The effect that boring a tunnel through Columbia Mountain would have on the spring at Berne Memorial Park can not be predicted without the benefit of detailed hydrogeologic investigations of the rock formation and source of water for the springs. However, a concern does exist that a tunnel could disrupt the flow of water at the springs.

GLADYS SHEA

count rats or pedestrians crossing the highway. I used to drive a mail route to Martin City. One thing I learned about that is when you go through Berne Park, you slow down and smell the flowers because there's no other way to go through it. Thank you.

DAN BARTSCH

Thank you. Okay, I think if anybody has any particular concerns that they'd check at the tables.

UNIDENTIFIED

....concerns. Do they have any plans after they blew up that, the canyon rock there. Were they going to try to replant. Were they going to just leave it blown up or.....

DAN BARTSCH

We have a question about this "blowing up" area and replanting. I guess I'd have to ask that you discuss that out front, look and see if our plan has gotten that far into the design to give you some speculation. I couldn't tell you. Okay. Check with one of those people. The gentleman back there please.

MIKE FORD

I'm going to make this fairly short. I don't live in the canyon. I live over in Whitefish. My name is Mike Ford and there's just one thing that I'd like to say. And, a lot of us here have seen what's happening in the valley and the canyon these days with this out of control development, stuff like that. And, I hope that you people will get activated and, I know one thing that I would like to see done is, there've been some people that have been working towards getting interim zoning. And, I think that we ought to support that and get some kind of emergency measure if we possibly can. Some kind of moratorium on development until this kind of study is completed and, you know, keep these people from... You know, we've got something here to protect here. And, if we can just put a hold on the development we might have a chance to channel it the way we want. That's all. (Applause)

DAN BARTSCH

Okay. This lady just submitted a statement, for the record. I'll just remind you, make sure that if you make written comments, that you get them in. I think there should be a mailing address of either the consultants or Missoula Highway Department office or the office in Helena. Any of these locations will funnel that information into the process as your input. I think there still should be

71.

RESPONSE: A discussion of measures that will be incorporated to mitigate visual impacts due to the excavation of the western rock outcrop at Berne Memorial Park was added to Part IV of the Final EIS.

71

72. RESPONSE: Please review the responses to transcript comments 17 and 19 presented above.

72

DAN BARTSCH

some people out there, if you do have any individual questions or any individual concerns, please feel free and go out and meet with them. I think if that's all, thank you very much for you attention and your attendance tonight. Good night.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

I only have two
concerns - One is
drainage from the
road, and the
second is if when
this will be a detour
around our business.

RESPONSE TO COMMENTS ON DRAFT EIS
Outfitters Supply
Carellen Barnett (12/92)

1.

RESPONSE: The design of the preferred alternative adjacent to the Outfitters Supply store in Columbia Heights would include curbs and gutters and an underground piped storm drainage system to accommodate highway runoff.

A traffic control plan for the project's work zone will be prepared prior to the start of road reconstruction activities on US 2. The traffic control plan would ensure that US 2 is kept open to traffic or that suitable roads are provided for moving traffic around parts or all of the project area. Efforts will be made to ensure that reasonable access to businesses along the corridor is provided during reconstruction.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Carellen Barnett
Address: 7373 Hwy 2E
Col Falls, MT 59912

OUTFITTERS SUPPLY

RESPONSE TO COMMENTS ON DRAFT EIS
Don Baughman (12/92)

Date Recd.	Reconst.	Info	Act
12-22-92	30 Preconst Eng		
	30 Assistant		
	31 Safety Mgmt		
	32 Road Design		
	33 Environment		
	34 Hydraulics		
	35 Survey & Mapping		
	36 Traffic Eng.		
	37 Traffic Operations		
	39 Consultant Day		
	40 Highway		

Don Baughman
1524th Avenue #103
Malispell Mt
59007

Director Mt Dept Highway
Brecon struction
2701 Prospect
Helena, MT 59620

Badrock Canyon is a gateway to a unique world class eco-system. The entire world will watch as we implement increase access to this system. In as tourism has become a major economic factor we must consider how such doorway is presented to the world.

We cannot reverse actions once they are implemented therefore let study all alternative before development. I feel that we need to implement a access control

1. RESPONSE: An Access Control Plan has already been developed for the project. It is important to note that reasonable access to properties adjacent to the highway must be provided. The locations where access to adjacent properties is provided can be controlled to some extent by MDT.

2.

RESPONSE: Two large parcels of land on both sides of US 2 near the House of Mystery have already been acquired. Development restrictions can be made a condition of future transfers of the properties.

Additional discussion about incorporating retaining walls and other alternate design measures to reduce encroachments on the Flathead River in the vicinity of Berne Memorial Park was added to Part II: Alternatives of the Final EIS.

The proposed new intersection of Berne Road and US 2 would not be located on a hill and curve as presently exists in the area. The intersection of the new highway, the reconstructed section of Berne Road, and the approach to the new river access site would be elevated above that of the existing roads so adequate views of oncoming traffic are possible.

The new highway would have a posted speed limits similar to that of the existing facility. Adjusting the posted speed limit can not be done without the results of an engineering study of travel speeds.

plan, acquire property to provide scenic easement, application of reinforced earth construction, embankment, ground anchors in the Berne Park Area, relocating Berne Road from the hill/curve location, and reduction of speeds to 55 M.P.H.

I have enjoyed this area with my Dad, I hope my sons can enjoy the Berne Park, Fishermen's Rock and the Badrock Canyon in the same manner.

Your Truly

Don Baugh

Date Recd. Preconsult.	Unit	Act
12-22-92	✓	✓
	✓	✓
	30 Preconsult Engr	
	30 Assistant	
	30 Office Mgr	
	31 Safety Mngmt	
	32 Road Design	
	33 Environment	
	34 Hydrogra	
	35 Surv Map	
	36 Traffic Eng	
	37 Traffic Operab	
	39 Consultant Dg	
	CHW	
	Logg	
	File	

1-1 Bridge

152 W 2nd Ave. N.W.
Don Bader
K. ROBERT PECCIA
2813901-59961
& ASSOCIATES

1. **RESPONSE:** The EIS has recognized the location of the project relative to these features. The document also recognizes that the boundaries of Glacier National Park and Wilderness Areas were established by Congress.

Handwritten notes at the top of the page, including the date "10/10/50" and some illegible scribbles.

I believe that effects of altering these rock formations may change the ecosystem as a whole and that this concern is a future research in to "Gobeyns" and their relationship to eco and cultural divisions before any altering occurs.

Yours Truly
Do Ray

98. If engineering can bridge all of Wallace, etc. I believe you can find a way to save all of Berne Park. I am a tourist and we all understand the value of our history.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

Dear Sirs:
I am very glad to
comment on the remaining
4.4 mile part of highway
U.S. 2. I feel that you
have not considered
all the things that
engineers to have all
of Berne Park. I believe
that you should use
find and bridge up
around the Park
over that side of the
Flathead River. The
Rock Canyon is a
historic and beautiful
as it is situated and
deserves to be
preserved as the
highway to Glacier.
Also, it is extremely

RESPONSE TO COMMENTS ON DRAFT EIS Mary Jo Anthony Blake (12/92)

- 1. RESPONSE:** Additional discussions about alternate design measures to reduce encroachments on the Flathead River and impacts to Berne Memorial Park were added to Part II: Alternatives of the Final EIS. These discussions look at the option of a tunnel, a cantilevered road, and placing the road on piers. Based on additional investigations of these measures, the preferred alternative was modified to include a vertical retaining wall in Badrock Canyon to minimize the encroachment on the river.
- 2. RESPONSE:** A cultural resource evaluation of the "tote" road was completed in May 1994. Additional text identifying the "tote" road and its location relative to the proposed action were added to Part III of the EIS. Text describing the impacts of the proposed action on this old road has been added to Part IV of the Final EIS and to the Section 4(f) Evaluation.

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Mary Jo Anthony Blake
Address: P.O. Box 1907466,
Hungry Horse, MT 59919

RESPONSE TO COMMENTS ON DRAFT EIS.
Gregory D. Blake (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS
Project F1-2(39)138
December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

David's The historic road which the two wagons were to set off the Canyon and then in one had remnants remaining in Berner Park in Red Rock Canyon on existing US-2. It was a difficult trip. Wagons had to be loaded with logs to immobilize the bear wheels to go down a portion of the trail and ropes around trees had to be used to lower and raise the wagons as well. My own mother first came into the Glacier. One by this trail is our historic Montana is very good compared to other places. We mailed to Graham and save the remnants, not blow them

up and blow them under. Blow this old trail now. Some measure about it which provided a fantastic view of the Red Rock Canyon and mirrored of wild rock flowers on me to this part of Montana. I am current a plan for this stretch of Highway US-2 is to blow out the cliffs at the west end of Berner Park that the old road goes alone and use the rubble to fill in the Flathead River. I believe that river bridge out around can solve this historic road and all of Berner Park. Greg Blake

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Gregory D. Blake
Address: P.O. Box 190144
Hungry Horse, Mt. 59919

1. RESPONSE: Please review the responses to Mary Jo Anthony Blake's comments presented previously.

Roseanne C. Bloom
1118 5th Avenue East
Kalispell, MT 59901
(406) 756-1111
December 1992

David S. Johnson, P.E.
Preconstruction Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

COMMENTS ON DEIS, U.S. HWY 2--COLUMBIA HEIGHTS TO HUNGRY HORSE, PROJECT FL-2 (39) 138, FLATHEAD COUNTY, MONTANA
DEC 23 1992
ROBERT PECCIA & ASSOCIATES

Please enter my comments into the official record and put my name on the mailing list for all future mailings about this project.

The range of alternatives has been prematurely narrowed to four similar action alternatives. The TSM alternative was eliminated prior to thorough evaluation, based only on the prejudgment of the authors of the DEIS.

Mass transit was blythely disregarded as a viable alternative. We as a nation, as well as a local community, cannot wait for the public to request mass transit. Neither would it be prudent to wait until all our roads are absolutely impassable because of traffic to consider reasonable alternatives to individually propelled passenger vehicles. Obviously, at some point in the future even a new 4-lane highway at this location will become congested, slowing traffic and increasing accidents. Must we dynamite the canyon and fill in the river, build a big new road, and only then deal with a problem that is already obvious? As long as highway projects are evaluated strictly on a local basis, mass transit will rarely be seen as a reasonable alternative.

Glacier Park already has mass transit alternatives for the Going to the Sun Road. As the Park is a common destination for travelers of Highway 2, extension of such mass transit should be considered. Tourists should be encouraged to leave their cars at home. Package deals that do not involve individual motor vehicles should be promoted with airlines and Amtrak. Broad vision is required. NEPA regulations require that reasonable alternatives be considered even if they are outside the jurisdiction of the agencies involved in the proposed project (CEQ 1502.14c).

I must take issue with some of the assumptions underlying the proposed action. One of these is that the highway should meet 60 mph standards. The stretch of highway from Hungry Horse to Coram is posted at 45 mph. The speed limit in

RESPONSE TO COMMENTS ON DRAFT EIS Roseanne C. Bloom (12/15/92)

1. **RESPONSE:** These alternatives were eliminated from consideration because neither fulfilled the purposes and needs of the proposed action as defined in Part I of the Draft EIS. Page II-10 in Part II of the Draft EIS indicates why the TSM and mass transit alternatives were eliminated from consideration for the project. Additional text discussing the elimination of these alternatives from consideration was added to Part II of the Final EIS.

The concerns for increasing highway capacity and the overall operation of the facility, which a TSM alternative would could only partially address, will be incorporated into the final design of this project.

The implementation of a mass transit alternative would not address the needs of most facility users. The preferred alternative will include a park-and-ride at Columbia Heights to facilitate carpooling for commuters traveling to or from work in the Flathead Valley or in the Hungry Horse-West Glacier area. The use of this facility would help reduce vehicle trips in the corridor and conserve energy.

2. **RESPONSE:** Design speed should not be confused with posted speed. The design speed is the maximum safe speed that can be maintained over a section of highway when conditions are such that only the design features of the highway govern. The design speed for highway projects is established based on terrain, traffic volumes, and the functional classification of the highway. The posted speed represents the legally enforceable speed in a given area, irrespective of the design speed on a particular highway or street section.

A 60 mph design speed, the minimum design speed considered when designing Primary highways in areas with rolling terrain in Montana, has been selected for this project. This policy is consistent with guidance in *A Policy on the Geometric Design of Highways and Streets* by the American Association of State Highway and Transportation Officials (1990). The AASHTO publication (page 63) also indicates that as high a design speed as practicable should be used to attain a desired level of safety, mobility, and efficiency given the environmental conditions of the project area.

A design speed of 60 mph does not mean that the posted speed will be increased beyond presently established limits, rather it is a design control used to directly establish maximum degrees of horizontal and vertical curvature and sight distance.

Glacier National Park is 45 mph. The speed limit from Columbia Heights to Hungry Horse could likewise be 45 mph. People are here for the scenic beauty; they don't need to rush by it.

Another assumption is that people have expectations that a road will not vary in width, number of lanes, surfacing, etc. I have traveled many miles by car, in Montana and all over the U.S., often on roads similar to Highway 2. Roads everywhere vary frequently. Sometimes there is a shoulder, other times not; road surfaces change, sometimes abruptly. I think it is incorrect to think people have an expectation

3 that a road will remain the same over its entire length. Highway 2 even if reconstructed as proposed would vary, as the section from Columbia Falls to Columbia Heights has 5 lanes and shoulders while the section from Coram to West Glacier is alternately 2 and 3 lanes. Going to the Sun Road is a very narrow 2-lane without shoulders. Why build a 60 mph highway leading up to it?

Resurfacing the existing road is not considered a viable alternative because the road surface does not meet the latest technological specs as to curves and gradients. But certainly, 4 neither does Going to the Sun Road, the destination of many travelers on Highway 2. Narrow winding roads add to the scenic beauty of a place and visitors expect such roads in and around Glacier National Park.

3. **RESPONSE:** We agree that all roads are not uniform in design features they incorporate or in the way in which they operate. Considerations like traffic variations, terrain, the presence of sensitive environmental resources, and even the availability of funding among others dictate many of the design features selected for reconstruction projects. Variations in roadway width, the number of lanes, and surfacing types can also be attributed to the fact that much of the state highway system is reconstructed section by section based on user or facility needs. Design standards for features of highways continually evolve due to changes in vehicles and their operating characteristics.

4. **RESPONSE:** Resurfacing the existing road is not considered a viable alternative because additional capacity is needed to accommodate the present and future traffic volumes in the corridor. Reconstruction to provide additional travel lanes, wider shoulders, the provision of left turn lanes, and the elimination of substandard curves are all measures that add to the capacity of the highway.

US 2 and the Going-to-the-Sun Road are transportation facilities with differing functions. US 2 is a rural principal arterial that is part of the recently designated National Highway System. Its primary function is to provide for the safe and efficient movement of people and goods between urban areas.

Although the Going-to-the-Sun Road serves as a travel corridor through Glacier National Park, the park road has a different function than US 2 and serves highway users that are aware of the special geometric conditions associated with the facility. The roadway itself is a feature that attracts visitors. According to the Transportation Plan for Glacier National Park (NPS July 1990, page 10), National Park Service Management Policies state that "park roads are not intended to provide safe and convenient transportation; they are intended to enhance the quality of a visit while providing for safe and efficient travel." This function is different than that of US 2.

Your suggested alternative would cost less and be less disruptive than the preferred alternative. However, the alternative would not adequately address the fundamental needs of providing a roadway that would accommodate the increasing traffic volumes in the corridor and making the road safer by eliminating sharp curves. Accommodating the level of traffic that occurs in the corridor in a safe and efficient manner requires that additional travel lanes and improvements to the geometrics of the highway, not just a better driving surface.

Considerable effort has been spent in locating where the new road should be constructed in an effort to minimize impacts on the project corridor. The proposed location of the new highway is on or closely follows that of the existing road through most of the corridor. The only locations where the new highway would vary substantially from the location of the old road are three curves between the House of Mystery and Hungry Horse.

Updating as much as possible and resurfacing the existing road, without changing the current location or basic design, is far and away the least expensive and least disruptive alternative. Excess funds could be used to develop mass transit projects.

I frequently use Berne Park to obtain drinking water for my family. The spring appears to me to be the #1 reason people stop at Berne Park. The proposed incursion into Berne Park and reconstruction around the spring will severely hamper people accessing the spring. Many people haul large quantities of water and need to be able to pull their vehicle right up to the pipe, sometimes backing under the pipe, perpendicular to the road. With only one entrance to the spring area from the highway, traffic on the highway will be halted by cars waiting to turn into the parking area. The current gravel area is safe if people pull in and out towards the middle, not at the ends where visibility is obstructed. Must we dynamite the beautiful weeping cliffs and fill in the river because some drivers do not exercise normal caution?

Bloom

Data concerning use of Berne Park is contradictory. On the one hand the DEIS considers CCP's survey "unverifiable and insupportable" and states that MDT "does not maintain data on the numbers of users or the duration of recreational use by visitors at Berne Memorial Park" (p. V-5). Then the DEIS goes on to describe traffic conflicts "which often occur" at the site, such as dust obstructing visibility and vehicles entering the pullout at high rates of speed. What evidence does MDT have for such traffic conditions? I have often been at or passed by Berne Park and have not witnessed such conditions. Does the MDT or does the MDT not have statistics on the use of Berne Park?

5.

RESPONSE: The turnout is intended to provide access to the spring for those that rely upon it for water. As proposed, the location of the spring would not be signed in advance of the turnout. The turnout is not intended to be a major attraction or a high use area so that conflicts between turning and through traffic can be avoided. No detailed design has been prepared for the turnout. The design of the turnout could include provisions to allow user to back up to the spring.

It is unlikely that traffic would be halted on US 2 by cars waiting to turn into the spring access since additional travel lanes would allow traffic to change lanes to avoid slowing or turning or stopped vehicles. After construction, monitoring the level of use and the operation of the turnout would be necessary to determine if other provisions are needed to accommodate turning traffic at the spring.

One of the purposes of the proposed project is to provide as safe a road as possible for all highway users, even those that "do not exercise normal caution" while driving. The project addresses conditions like frustrations caused by waiting for long lines of vehicles to pass before turning, restricted views of oncoming vehicles, and unrestricted access at the spring area that may be responsible for some drivers making unwise decisions.

6.

RESPONSE: MDT does not maintain statistics on the use of Berne Memorial Park. The CCP provided counts of vehicles at Berne Memorial Park made over three years on various days during the summer, primarily the month of July. The comment that the data was unverifiable and insupportable was made because the CCP extrapolated one average use number (40 vehicles per hour) from short-term counts collected only during one month of the year.

Reconstructing the average use numbers from the raw data provided by CCP was difficult since the counts appear to be focused on traffic turning into the park from one direction only while ignoring park users from the other direction. We were unable to determine how this procedure produced an accurate count of use.

The Draft EIS acknowledges that the CCP data suggests "frequent public use, especially during the summer" on page V-6. As indicated in a response to a comment from the CCP, a summary table presenting CCP's vehicle use data for Berne Memorial Park has been in the Final EIS/Section 4(f) Evaluation. Please review TABLE V-1 in the Final Section 4(f) Evaluation.

Perhaps the planners have been in Helena too long to fully appreciate the attraction and unique qualities of Berne Park. Visitors from urban areas are delighted to find a place where pure drinking water flows right out of a mountainside, where they can just pull off the road to partake of it. This is truly a rare opportunity in America. Seasonally, fruit vendors set up shop in the pullout, most commonly selling huckleberries, another tourist attraction unique to this area. The proposed action would for the most part destroy these unique qualities of Berne Park.

The DEIS compares accident rates for Highway 2 over the last 4 years with average Montana rates for the last 10 years. This is faulty use of statistics. Perhaps accident rates for the last 4 years have increased all over the state. If only 4-year figures are available for Highway 2, they should be compared only with other 4-year figures.

7.

RESPONSE: The proposed action would not eliminate the flow from the spring at Berne Memorial Park or the opportunity for the public to collect water from the spring.

Roadside vending may occur at this location but these activities are not permitted within highway rights-of-way.

8.

RESPONSE: According to accident information obtained from the Highway Information System (HIS) maintained by the Montana Department of Justice, the overall accident rate for Montana's Primary Roads from January 1, 1987 through December 31, 1990 was 2.19 ACC/MVMT (accidents per million vehicle miles of travel). Calculations show that the accident rate for US 2 between Columbia Heights and Hungry Horse is about 1.7 times higher than all other State Primary Roads during the same 4-year analysis period.

Considering the 4-year average accident rate for Primary Roads instead of the 10-year period, other specific accident rate comparisons presented in the Draft EIS (pages I-10 and I-11) changed, but not substantially over what was presented in the Draft EIS. The Final EIS indicates the following:

- Columbia Heights to Hungry Horse accident rate was about 1.5 times higher than the state average;
- Berne Road to Hungry Horse accident rate was 1.8 times higher than the state average;
- November - March accident rate for corridor was 2.9 times higher than the state average;
- April - October accident rate for corridor was 1.4 times higher than the state average;
- the accident rate in the vicinity of Berne Memorial Park is about 2.2 times higher than the state average; and
- the accident rate for the area including the approaches to the South Fork bridge and on the bridge was 2.7 times higher than the state average.

The DEIS lists 8 reasons for the proposed reconstruction. Some of these supposed needs are redundant and others are so closely related as to really be one reason. It appears that an expanded list of reasons was formulated to make the need for the project seem more compelling. The first stated reason, that the 1930's design is inadequate for current traffic, is already contained in the next 2 reasons, that the highway currently operates at an unacceptable level of service, and that the road's foundation, width, and alignments are poor.

Two of the listed reasons address accident occurrence and should be combined as one reason. The preferred 4-lane alternatives will most likely have less impact on accident rates than the 2-lane designs would, considering comparative figures given on p. 11-23. Statewide, accident rates decreased an average of 37.5% after projects upgrading 2-lane highways to 4 lanes, but decreased 52.3% after projects which remained 2-lane after upgrading. The study did not consider any projects which merely widened the roadbed or upgraded the surface, a rather crucial omission.

That other sections of Highway 2 have been upgraded is hardly worth inclusion as a reason for a major highway reconstruction project. As I have already stated, motorists are accustomed to rural, scenic highways changing width, surface, number of lanes, etc. The various upgraded portions of Highway 2 are far from identical anyway.

9. **RESPONSE:** Indeed, many of the items listed as needs for the proposed action are linked.

10. **RESPONSE:** Some of the difference between the accident rate reduction benefits of the two-lane and four-lane reconstruction projects may be better explained by examining where the projects typically occurred. Projects involving the expansion of highways from two to four-lanes were generally located in corridors where traffic volumes are considerably higher than for most of the two-lane reconstruction projects considered in the study. Due to higher traffic volumes, the chances that highway users may be involved in an accident on these well traveled corridors is increased over lesser traveled two-lane roads.

Additionally, the two-lane to four-lane projects most often involved reconstructing two-lane roads that had previously been rebuilt to higher standards based on traffic demands and accident histories. In these instances, some of the decrease in accident rates can be attributed to previous projects which provided higher design two-lane facilities.

The key concept verified by the study, regardless of whether it was a two-lane or four-lane project, was that major reconstruction provides traffic safety benefits for facility users. This was evidenced by reductions in accident rates following the reconstruction.

The actual effect that highway reconstruction in this corridor will have on accident rates can not be exactly predicted.

The study referenced on page 11-23 of the Draft EIS was performed in an effort to quantify the effects of **major reconstruction** on accident rates. Projects that produced substantial changes in the design elements or geometrics were reviewed because similar changes are proposed for this corridor. Road widening or resurfacing projects were not considered in the study because such projects do not substantially alter the characteristics of the roadway or the environment in which accidents occur.

11. **RESPONSE:** The improvement of US 2 must be viewed in a broader context. The completion of this 4.4 mile-long project would not only upgrade US 2 between Columbia Heights and Hungry Horse, but would substantially complete the reconstruction of the highway corridor between Kalispell and West Glacier. This corridor has and is being reconstructed based on the need to provide safety features and added capacity along the entire route.

The level of service is only unacceptable (by MDOT definition) during peak tourist season. We who live here year-round should not have to suffer having our valley dynamited and hardtopped to accommodate brief visitors.

12

One of the supposed indicators of LOS E is average travel speeds of less than 50 mph. 45 mph is not unacceptably slow travel in an area such as this, and even some of the upgraded sections of the highway are posted at 45 mph.

12.

RESPONSE: The criteria that define various levels of service (LOS) and the methodology used to calculate LOS for specific road segments or intersections is contained in the Transportation Research Board's (TRB) *Highway Capacity Manual Special Report 209* (1985 and subsequent revisions in 1992). The material provided in the *Highway Capacity Manual* (HCM) is the result of many years of collaborative effort by the TRB and others like the Federal Highway Administration, and the National Cooperative Highway Research Program supported by the American Association of State Highway and Transportation Officials (AASHTO). The criteria and methodology used to evaluate highway capacity are accepted as national standards and are likewise accepted by MDT.

Other nationally guidance contained in AASHTO's publication *A Policy on Geometric Design of Highways and Streets* (1990) states on page 495 that:

"Although the choice of a design level of service is left to the user of the HCM, designers should strive to provide the highest level of service feasible and consistent with anticipated conditions.... For acceptable degrees of congestion, rural arterials and their auxiliary facilities i.e. turning lanes, passing lanes, weaving sections, intersections, and interchanges, should generally be designed for level-of-service B except in mountainous areas where level-of-service C is acceptable."

Consistent with this guidance, a preferred alternative that would operate at LOS B through the design year for the project has been selected. LOS B was selected as the appropriate design level of service because the project area does not meet AASHTO's definition of mountainous terrain.

For all the above reasons, I request that a TSM alternative be fully evaluated, resurfacing the existing highway, perhaps widening or otherwise upgrading it where space permits. I also request that all 2-lane designs be given fuller consideration since they would most likely reduce accident rates more than any 4-lane design. I ask that greater consideration be given to the rural, scenic qualities of this stretch of highway.

Sincerely,

Roseanne C. Bloom

Roseanne C. Bloom

RESPONSE TO COMMENTS ON DRAFT EIS
Mollie Bolsen (12/92)

From someone who has used and continues to use the Bad Rock Canyon Road since 1928. In 1928 my father and his son to help build a road from East Blaine and to the Flathead Valley. My mother and her three young sons traveled by train from East Blaine to help them on the road and then progressed, we came by train to what Blaine and there we met my father's crew.

In 1933 my parents and family lived on the Haught Ranch, River Bend (now a dry lake). For five years. Then seeing the Canyon Road. Later, Mike Burns helped assist my daughter with pictures and stories for her town paper in Columbia Falls. Whiting notes about the Canyon Road, timber, and horse and mules and goat.

In 1979, my husband and I bought our retirement Ranch RR and used the Canyon Road. We loved and cherished the experience of watching the Bald Eagle fish, people fish from the Rock, see the clean mountain water, buy cherries, watch it friends selling buckles, berries, lunch with the grand children and so on.

²⁰ We do need a change: In the future, maybe some highway pillars in the water (the highway did not do any with slope, Idaho) and two wide lanes with trees out to the Park area, so that one of its kind Park can remain to be used and enjoyed by all.

Maybe a bypass trail for hikers, bikers, and horses.

Mollie Bolsen
P.O. Box 260067
... 2007

1. RESPONSE: Alternate design measures for the road through Badrock Canyon (like a tunnel, a cantilevered road, and building the road on piers) have been investigated for the Final EIS. Additional discussions of these measures was added to Part II: Alternatives of the Final EIS. Based on investigations of these design measures, the preferred alternative was modified to include a vertical retaining wall along the Flathead River in Badrock Canyon.
Engineering studies have shown that a four-lane highway is necessary to accommodate traffic on US 2 through the foreseeable future.
2. RESPONSE: The preferred alternative would provide 10-foot-wide paved shoulders in rural areas for pedestrians and bicyclists. The existing road has shoulders that are about 2-feet wide.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

*this proposal intersects at
B. Highway 2 has been considered
I have living in the area
Highway 2 is a very bad situation
You have long logging trucks
entering there that will bring
cattle to make the 90 turns
With traffic going at a higher
speed of speed than now you
will surely see incidents happening
there. Why not install a traffic
light?*

*What about the foot traffic at
the highway and the photo drive
area. You have many children
every time.*

*Moving Horse Park back to
the space of Highway is a good idea.
You will spend money to make
a park that will be very nice
check. It's like a park like you
will have to use it.*

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Norman Bouchey
Address: 1202 Road Ave East
Col. Della Mt. 59912

RESPONSE TO COMMENTS ON DRAFT EIS Norman Bouchey (12/92)

1. **RESPONSE:** An engineering study will be performed during the final design of this project to determine signalization and pedestrian crossing needs in Columbia Heights.
2. **RESPONSE:** The site near the House of Mystery was selected for use as replacement parkland because:
 - other suitable replacement park sites did not exist in the corridor;
 - the landowner was willing to sell the property was up for sale;
 - the site offered an opportunity to acquire land ahead of the project and prevent the development of incompatible land uses;
 - the site provided an opportunity to enhance public recreational opportunities; and
 - the site offered an opportunity to replace some of the functions and uses impacted at Beme Memorial Park.

Enhancement measures, like tree plantings and the eradication of noxious weeds, will be included in the development of the area. The duplication of all features that exist at Beme Memorial Park is not possible at this or any other site examined within the project area.

Neither MDT or the U.S. Forest Service have proposed that fees be charged for use of the replacement parkland or river access.
3. **RESPONSE:** Changes in the access and parking to the fountain and spring that provide water for area residents are necessary for safety reasons and because the space remaining in the existing turnout would not be sufficient after constructing the new road to provide well designed parking areas and internal circulation.
4. **RESPONSE:** We recognize your concern for overloaded trucks and the problems such vehicles may cause for maintaining roadway surfaces. Although the weigh station in Columbia Heights would be eliminated, a new GVW "B" site was recently proposed for development within the corridor by the MDT's Project Analysis & Programming Engineer. The "B" site would consist of a widened area adjacent to the highway where portable scales could be periodically placed to check the weights of commercial vehicles. A location for this facility would be determined during the final design of the project.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS
Project F1-2(39)138
December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

The plan would be new at
the intersection of Highway 2
Highway 201 is terrible. you are
going to make Highway 2 a
new sweeping curve &
much wider which means
the trapline will be moving
faster. The intersection
will be right on the bend
of the hill. which means
less visibility. I can see
how this plan will be
any improvement. by a
trapline light will work at
the Blue Moon Curve (they
40) why wait at all
make here?

Moving Bear Park to
a lot further location is
not a good idea. I also
wonder if we will have second
Barricades what a nice

RESPONSE TO COMMENTS ON DRAFT EIS Myrna Bouchee (12/92)

1. **RESPONSE:** Please see the responses to similar comments made by Norman Bouchee previously presented.
2. **RESPONSE:** The U.S. Forest Service requested that barricades be included in the development of the replacement park area so the use of the river access can be controlled. The U.S. Forest Service intends to operate the facility on a seasonal basis as the agency does at many of its other public use facilities in the area.
3. **RESPONSE:** There would not be sufficient area between the spring and the new highway to provide well designed parking locations and a two-way circulation roads for users of the spring. As shown in Figure 21 of the Draft EIS, the area would be large enough to accommodate the one-way traffic loop and limited parking.
4. **RESPONSE:** Please see the response to similar comments made by Norman Bouchee presented previously.

though I have gotten to
control with
your proposal for the
existing water question is
not good. A one way turn-
out? that could be right
open for trapline. please
think ways for people to
escape all the time as at
is now. Some of the cars
about it. I also keep it clear.
by a new highway is kind
some sort of protection
should be allowed for cutting
the heavy truck traffic that
travels on it. A weight scale
should be in the place.

This page can be left at the meeting or can be folded and
mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December
20, 1992.

Name: Myrna Bouchee
Address: P.O. Box 973
Cul. Falls, Mt. 59912

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

We at the House of Mystery feel it is a very good idea to widen this section of Hwy 2.E. for the safety off all the travelers and to better the roads for the number of people that travel through here in the summer months. We do feel that we need a left turning lane here at the House of Mystery do to the speed and the accidents that we have seen from people trying to turn in here.

The property between our property and the new buy to be. we would like to know how much you would want for it (fair market value) we would like to purchase it.

Also we heard at the public hearing from one of your department people that you may be selling the property directly behind us. when you do please contact us. we may be very interested in it. we wanted part of it when we purchased this place but you were already purchasing it at that time.

Thank you

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Mike & Lori Craner (House of Mystery)

Address: 8000 Hwy 2.E.

Columbia Falls, MT 59912

RESPONSE TO COMMENTS ON DRAFT EIS

House of Mystery
Mike & Lori Craner (12/92)

1. RESPONSE: The preferred alternative would include a median/left turn lane in the vicinity of the House of Mystery and Bema Road to accommodate turning traffic into this business and the proposed replacement park/river access site.
2. RESPONSE: No land from the replacement parkland/river access site near the House of Mystery would be sold until the project is completed. The property would be reviewed after construction is completed to determine the amount of "surplus" property that exists and the most appropriate means for its disposition.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

The Bitter Lake during the public hearing on Dec 13 1992 outlined the proposed highway & issues surrounding it. I agree. We need mitigation for the line and impacts to the biological environment. Let the highway construction would cause this is of course constant and needs to be addressed and felt not successfully and especially to the DPH.

I was disturbed upon attending the meeting by the apparent reaction by the DPH to criticism. Leading to this a deal was planned for the Canyon Community. I would like to impress upon the Dept that mitigation for the obvious impacts that improved highway construction brings to community is equally as important as biological impacts.

RESPONSE TO COMMENTS ON DRAFT EIS Ann M. Fagre (12/92)

1.

RESPONSE: Since the public hearing in December, MDT has agreed to contribute funding for hiring a professional land use planner to assist local residents in the development of a growth management plan for the US 2 corridor. Other agencies have also agreed to make financial and/or in-kind contributions of services to assist in this local planning effort.

Recent surveys, formed on Canyon
showing a loss of the water
of the Canyon show an over-
whelming desire by the residents
for controlled & managed growth,
open spaces & wildlife corridors,
left intact, standards imposed
on business appearance and
a scenic corridor about
unchecked unplanned development
Threats to the change.
Change is inevitable but it can
often be directed when there
is a vision. The Canyon citizens
are ready to form a vision.
A professionally designed
land use plan is needed to
ensure this process, then
can be an asset to the area and create
a role for in managing & planning the
Canyon future.
This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Ann M. Fagre
Address: box 267 W. Glacier
MT 59336

RESPONSE TO COMMENTS ON DRAFT EIS George T. Hanson (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS
Project F1-2(39)138
December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

1) Our main concern is the intersection of 206 with Hwy 2. Having had to use this intersection for the past twenty yrs it is apparent that without a traffic signal those going onto No. 2, either direction, will have an intolerable delay and the traffic coming from the Park (south on US 2) and turning to go south on 206 will have to turn left against both Hwy 2 traffic and 206 traffic going into Columbia Falls ... This will be a potentially hazardous situation.

Without a profile of the intersection, I cannot question the sight distances for traffic coming up the hill from the river. This needs careful consideration.

2) I am not in favor of attempting to put a tunnel around Berne Park. Aside from the cost, my experience as a former P.E. would lead me to expect that the spring can be damaged by such construction.

I am naturally in favor of retaining the spring and the Lions Fountain that is there. Lions Clubs have invested considerable money just recently to repair the fountain, and if it remains as a viable feature, will probably do some update or repair in the future.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: George T. Hanson

Address: 3075 Hwy 206 P. O. Box 1727

Columbia Falls, MT 59912-1727

1. RESPONSE: An engineering study will be performed during the design phase of this project to determine signalization and pedestrian crossing needs in Columbia Heights.
2. RESPONSE: We share your concerns about the costs and impacts to groundwater feeding the spring associated with a tunnel alternative. The actual effect of a tunnel on the spring could not be accurately determined without the benefit of detailed hydrogeological investigations.
3. RESPONSE: The proposed alternative would not affect the spring or fountain developed by the Lion's Club.

[illegible]

The rigwands to the place to track what we know as Beane Lake in Bad Rock Canyon for a faster, and somewhat new road to the Flathead valley.

You write up in the paper I read
did nothing about it being the historic
site of a Blackfoot, Flathead and
Sutler. Our historic sites should be
preserved forever. It is what has brought
us to our modern day.

The number of people that exist on the water that comes from there, would surprise you. Each and every day, many more families depend on that as there only source of water. If it is stopped for construction, how long would it take to re-route the lines? Oh, would they be out of permanent? Then what happens to these taxpayers that can't afford to drill for water, maybe a money not gotten as good well?

You could eliminate having to deal with change of any kind to do with Bernie's Park by constructing a tunnel.

1

RESPONSE: Representatives of the Culture Committees of Salish, Kootenai, and Blackfoot Tribes were consulted about the location or details of the Indian battle that may have occurred in Badrock Canyon. None of the representatives could place the battle at a specific location in Badrock Canyon. Further investigations about the historical marker in Badrock Canyon that identifies the area as the site of an Indian battle. These investigations found no references to a such a battle prior to the installation of the marker on US 2 in 1938.

Accounts of local history by a long time resident of the area (H. P. Stanford) and Salish-Kootenai "historian" Olga Wedemeyer Johnson records indicate that a battle between the Blackfeet and the Salish and Kootenai occurred sometime between 1840 and 1879. These accounts suggest that little, if any, of the actual confrontation battle likely took place in Badrock Canyon. The more likely site of the battle is near the Soldiers Home in Columbia Falls or a location between Badrock Canyon and Flathead Lake.

Historical research also showed that another Bad Rock exists in Sanders County along the Clark Fork River between Plains and Thompson Falls. The historical record contains references to Bad Rock as early as 1809 and there are several accounts of violent confrontations between the Salish, Kootenai, and the Blackfeet in this vicinity. Based on this information, there is reason to believe that the historical marker in Badrock Canyon is in the wrong location.

2.

RESPONSE: There are no plans to eliminate the spring or access to the spring in Berne Memorial Park. Those residents that rely on this source for water will be able to continue using it after reconstruction. It is possible that temporary restrictions on the use of the spring could be implemented for public safety reasons during construction activities in the vicinity of the park.

3. **RESPONSE:** Further investigations about constructing a tunnel through Columbia Mountain to minimize or avoid impacts to Berne Memorial Park was completed for the Final EIS. New text discussing the feasibility and cost of this alternative was added to Part II: Alternatives of the Final EIS.

4. **RESPONSE:** Numerous alternatives were considered for this proposed action. The preferred alternative meets the purposes and needs for the project as specified in Part I of the EIS. Measures to mitigate the impacts have been proposed when adverse impacts were predicted to occur as a result of the proposed action.

5. **RESPONSE:** Design and cost information about the Eisenhower and Johnson Tunnels on I-70 west of Denver was obtained from the Colorado Department of Transportation and reviewed to establish cost estimates for a tunnel in Badrock Canyon.

6. **RESPONSE:** The facility would be developed using a 60 mph design speed as a primary consideration. The posted speed limits for the corridor would not exceed 55 mph.

11-
3
are as the bridge crosses from
Hoguer Pass, at the South Fork of
the Flathead river, nearly straight
thru into Columbia Heights and strikes
the heart of the environment.

No matter how it is said where the money
is coming from, our states taxes, with
assistance from our federal government,
which is essence, is us again. So what
differences does it make. Like the people are
paying the bill. You know this is true. So
again, why not disturb the least of it all,
the environment, and the people.

VI-245
5
Just to say, the Eisenhower Tunnel in Colo-
is a fine example, one mile long and
disturbs much less of the land and
another feature there it would if it was a
super highway around the face of the
mountains.

I know that many people do not like
change, as it is coming to our place in paradise.
But we, just as the Indians cannot stop it,
though it would be nice to see it done, in
the most cost full as possible.

6
Have you considered the speeds that the
motorist will be driving will increase with a
better road. You know they will and the one
thing you can do nothing about is how the

Just build up from the humidity
up the river, with faster driving
7
U.S. forest conditions straight road or
not, you cannot stop auto's from
accidents on icy roads. You must
consider the good possibility of the
increase in winter accidents with
wider and faster roads.

A tunnel could eliminate many
8
accidents in that river road area.
In regards to our land, rivers,
in co-existence with the increasing
of many, many people the safer the
roads the better. For many of these
people are not familiar with winter
driving conditions.

I do not stand alone in my
wish for a tunnel to keep Beaver park
as is.

Born and raised in our Big Sky Country,
I would like to see it stay as pure as
possible.

You can help us do that!

Thank you
J.R. Howland.

7. **RESPONSE:** Accident investigations for the EIS have shown that the accident rates are substantially higher during the winter on this route and that 36% of the accidents occurred when road conditions were snowy or icy. Reconstruction of the highway will not change the weather or icy road conditions that contribute to winter time accidents in the corridor.

The proposed action would be expected to provide some reduction in the severity of accidents when winter time accidents occur by providing larger clear zones adjacent to the road and less severe shoulder slopes. Wider shoulders would also provide additional recovery area for motorists who may temporarily lose traction due to icy road conditions.

8. **RESPONSE:** A tunnel in Badrock Canyon has been further investigated for the Final EIS.

RESPONSE TO COMMENTS ON DRAFT EIS
Patrick Heffernan (12/92)

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Patrick Heffernan
Address: P.O. Box 161
Hungry Horse

COMMENTS RECEIVED:

- 1
- Support the CCIZ proposal for planning
funding. Regional recons. will provide further
impetus for development.
2. Flathead Co doesn't have funds or
staff or resources.
3. Group will draw everybody into plan
and facilitate communication between
all of the affected agencies and
citizens.
Need the highway.

1. RESPONSE: MDT has agreed to contribute funding along with other agencies to hire a professional land use planner and develop a growth management plan for the US 2 corridor. The Final EIS has been revised to indicate the status of the local planning effort.

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Dan Hendrick Curt Spradley
Address: 7450 Hwy 2 E. 7480 Hwy 2 E.
Fishing Tackle Building Go-Cart Owner

COMMENTS RECEIVED:

We would prefer we extend the curb and gutter
section past the go-cart track to reduce
impacts and reduce R/W. Also concerned about impact on access
Made earlier to the wider R/W section 1

Support proposed alteration with this suggestion.

Don't need sidewalks in front of his property
because he is afraid he will have to maintain. 2

RESPONSE TO COMMENTS ON DRAFT EIS
Dan Hendrick and Curt Spradley (12/92)

1.

RESPONSE: Your suggestion to extend the curb and gutter section to the vicinity of the Hoot Owl Ranch will be considered during the final design of the project.

2.

RESPONSE: Sidewalks in Columbia Heights will be included where the density of roadside development is appropriate for providing such roadside features. Columbia Heights is not an incorporated area so maintenance of sidewalks would be the responsibility of MDT.

page ①

RESPONSE TO COMMENTS ON DRAFT EIS
Janet Herring (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

I am very concerned about the highway project and will be affected directly and indirectly in many ways. Not only losing property and neighborhood directly affected but we also see the carnage created by a dangerous stretch of road. As you see, I have a bit of a worst case of it in my project. It would be in favor of improving the highway if done in a responsible way. I have heard many pros and cons, have been overwhelmed by facts and myths, and have come to the conclusion, yet this point in time that the department preferred alternative is a good compromise to many sensitive issues. I feel the people who are concerned about the proposed highway and what it will bring in terms of development, are a little late in their fears. The traffic, people, and problems are already here. The highway is a symptom - not the cause. We already have the flood waters

of tourism and increased population through motor vehicle activity. The flood water will seek its own level unless we provide a safe passageway. I, too, am initially concerned about the development, high prices, and attitudes that are changing the flavor of the area. Perhaps those that are concerned about it can put their energies to better use by becoming involved in the historic planning groups. I am greatly appreciative of their concern as it is one of mine also. But I doubt that any one can enjoy the spectacular scenery on this stretch of road as it is now. Failure to keep a vigilant eye on the cont.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Janet Herring
Address: 1688 Monte Vista Dr.
Columbia Falls, Mt. 59912

page 2

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

road and traffic can result in death and injury. I have tried to envision a new improved highway and wonder about the changes in scenery along it. I would hope a bike path and landscaping (especially in the old and new Burne Park) would be a big consideration. I have noticed a much more pleasant drive and an ability to enjoy the scenery where the road has been improved from Hungry Horse to West Glacier. Again, I want this highway improved with special consideration to sensitive areas. So far, I feel the department has taken this into consideration and hope that you continue to do so. I realize the project is in the interest of the majority but would like the people directly affected

to be seriously considered. Specifically and directly where I am affected, I have some concerns about the right of way and some areas of my property. I expect and hope that this will be discussed in a specific way once the project is underway. Please contact me when that time is appropriate and not when it is too late. I am very concerned that the project will cost me in ways I can ill afford - such as actual dollars and cents - either through the actions of the department in dealing with me or unnecessary delays due to exhorbitant demands from this page can be left at the meeting or can be folded and mailed to: special interest groups.

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Janet Herriag
Address: 1688 Monte Vista Dr.
Columbia Falls, MT 59912

1. **RESPONSE:** The Right-of-Way Bureau will contact affected individuals and business owners after design and location approvals have been received and after detailed right-of-way plans, based on the final design plans for the new road, are prepared. The right-of-way plans will guide the acquisition of needed properties in the highway corridor.

The Right-of-Way Bureau will negotiate with affected property owners for the necessary right-of-way. Affected property owners will be compensated on the basis of "fair market value" appraisals for individual properties and improvements. Relocation assistance will also be available to all property owners displaced by the project. This program provides assistance, such as help in finding replacement property and defraying the cost of moving, to displaced property owners.

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS

DECEMBER 10, 1992

RESPONSE TO COMMENTS ON DRAFT EIS
Dick Howell (12/92)

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Dick Howell
Address: 1348 Highway 2 East
Columbia Falls MT

COMMENTS RECEIVED:

What will speed zone be in Columbia Heights - presently
too fast for types of uses in business area

1

1. **RESPONSE:** No changes to the posted speed limits through Columbia Heights area are initially proposed. An engineering study will be performed to determine the need for a traffic signal and pedestrian crossings at the intersection of US 2 and Highway 206. The results of this study will provide much of the information necessary to determine if the posted speed limit in Columbia Heights should be adjusted.

RESPONSE TO COMMENTS ON DRAFT EIS
Judy Howell (12/92)

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Judy Howell
Address: 7348 Hwy 2 E,
Columbia Falls, MT. 59912

COMMENTS RECEIVED:

In the 12 years I have been a resident, business owner and worker in my building fronting on Hwy. 2 I have seen many children growing up in Columbia Heights - including my own 2 boys. I see kids on bikes + their dogs, school buses stopping.

I have seen cars passing on the wrong side to get around someone wanting to slow down + turn off the highway. I would like to see enough lanes through here to accommodate all the traffic needs, but I would like to see provisions for the children's safety + traffic slowed down through this area (dense area of Col. Heights business + residential) - as it is in Columbia Falls.

1. RESPONSE: An engineering study will be performed to determine the need for a traffic signal and pedestrian crossings at the intersection of US 2 and Highway 206. The results of this study will provide much of the information necessary to determine if the posted speed limit in Columbia Heights should be adjusted.

COMMENTS (CONTINUED):

More residential development is occurring ^{in the} ~~the~~ per-
tally on the east sides of Hwy-2
in Columbia Heights and I hope
that the highway will not be a danger to
the people living in this area. Just keep
the speed limit down through here!

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Rick Hall

Address: from Daily Interlake

COMMENTS RECEIVED:

PM-10 Analysis in Columbia Heights

7

- 1.

RESPONSE: The Montana Department of Health and Environmental Sciences, Air Quality Bureau, provided information on recent changes in the attainment status for PM-10 in the Columbia Falls area. The Final EIS was revised to discuss this change and includes the results of a PM-10 analysis for the proposed action, as requested by the Air Quality Bureau.

The project area is not within the limits of the Columbia Falls nonattainment area for PM-10.

3115 8th Ave. N.
Billings, MT 59101
December 22, 1992

Public Hearing Office
Montana Dept. of Transportation
2701 Prospect Avenue
Helena, MT 59620

Dear Sirs:

We just received our copy of the Hungry Horse News from Columbia Falls and read about the hearing on Highway 2 changes between Hungry Horse and Columbia Heights. We hope that our comments may still be included in the hearing record even though they are late.

Our primary concern is that Glacier National Park is overcrowded and the surrounding area is continually being developed to accommodate increased automobile traffic. We all know that the automobile creates more problems than it solves and it's definitely time to "put the automobile in its place" and give it less importance in our lives. The overcrowded conditions in Glacier will only worsen if access is encouraged for more and more cars. It makes no sense to try to solve the overcrowding after the people reach the park.

Also, the idea that a "wider, straighter road is safer" should be translated to "you can drive faster on a wider, straighter road". Have the deadly accidents decreased on the stretch from Hungry Horse to West Glacier that was widened before? No, but the fender benders have. Now that the speeds are greater when cars collide, complete destruction is a more usual result. The developments that have sprung up along the new road are the worst in bad taste, a quick way for someone to separate the tourist from his dollar without any regard for the real reason why someone drives along this road.

We therefore urge that this section of the approach to Glacier National Park not be rebuilt for increased traffic, more sprawling tourist traps, and more pressure on the beauty of Glacier Park.

Sincerely yours,

Thomas P. Hurlock by gfr
Linda Z. Hurlock

Thomas P. Hurlock
Linda Z. Hurlock

RESPONSE TO COMMENTS ON DRAFT EIS Thomas P. and Linda Z. Hurlock (12/22/92)

1. **RESPONSE:** The proposed reconstruction of US 2 is, to some extent, a reactive measure to accommodate the substantial increases traffic caused by the growth in Flathead County and the influx of visitors to Glacier National Park. There are no indications at this time to suggest that traffic will not continue to grow through the foreseeable future in this area. These increases will occur with or without this project.
2. **RESPONSE:** One of the major reasons developments along the highway have occurred in recent years is because few regulations exist to control land uses within the US 2 corridor. A comprehensive planning effort intended to develop a growth management plan with land use regulations for the area between Columbia Heights and Marias Pass has recently been initiated by local residents. The concerns over the continued development of incompatible land uses was one of the major reasons residents began this planning effort.
3. **RESPONSE:** This improvement to US 2 has been proposed because the facility is more than 50 years old and was designed for conditions that no longer exist. The deteriorated condition of the roadway, the existence of substandard vertical and horizontal curves, the current accident rate, and demands of traffic in the corridor are indicators of the need for reconstructing this section of US 2.

RESPONSE TO COMMENTS ON DRAFT EIS
Frank Karnes (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS
Project F1-2(39)138
December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

My major concern is changes in weather.
There is a complete difference in weather patterns between Columbia Heights and Hungry Horse. From Co. Heights to House of Mystery is very windy especially in the winter with alot of snow drifts. Then it gets calm with more snowfall inside the Canyon.
If the Highway Department blows up Columbia Mountain at Badrock Canyon, the direct force of the wind will come into the Canyon and cause worse driving conditions than now. The wind will bring snowdrifts into the Canyon with drifts on the road. This major impact hasn't been considered yet.

I'm also concerned about the 65² mph speeds. It should be lower. I support having a lower speed design. I don't support a four-lane through the Canyon. Tourists would appreciate the scenery instead of big traffic.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Frank Karnes

Address: Box 277

Hungry Horse, mt 59919

1. RESPONSE: It is unlikely that excavation of the western cliff at Beme Memorial Park would substantially alter local weather and wind patterns.
2. RESPONSE: The new highway would have a posted speed limit of 55 mph.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS
Project F1-2(39)138
December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

I DROVE THIS WAY 5 DAYS
A WEEK ON MY WAY TO
KAUWER. IT IS A VERY BAD
ROAD BUT I BELIEVE THERE
IS PRACTICAL AND MORE
ECONOMICALLY FEASIBLE
ANSWERS TO THIS PROBLEM
THAN I BELIEVE SINGLE LANE
WILL ALIENATE THE ROAD
IDE THAT EXISTS FROM
THE HOUSE OF MUSEY TO
WHERE THE TREES START
TO SURROUND THE ROAD.
MAIN TOWARD COLUMBIA
HEIGHTS (SEE MAP). I ALSO
THINK A VERY LARGE
SIGN THAT SAYS SLOW
DOWN TO 25 MPH WITH
FLASHING LIGHTS AND BELLS.
MAKE IT MANDATORY FOR
DRIVERS TO SLOW DOWN
FROM

THE CURVE AT HOUSE OF
MUSEY TO JUST PASS
THE LARGE CLIFF IN
THE DARK AREA (REFERS
MAP) PEOPLE TEND TO
TAKE THE TIME TO
ENJOY THE BEAUTY THAT
EXIST IN THIS SPOT.
WHY CAN'T WE EXPERIMENT
WITH THIS IDEA AND SEE
IF SOMETHING SO SIMPLE
COULD WORK. WHY MUST
PEOPLE ALWAYS GO FAST.
IF THIS IS TO BECOME
A MAJOR FREIGHT HWY THEN
WE NEED TO BUILD A BYPASS
CLIMBING FURTHER NORTH
TO TRAVEL AT 65 MPH.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: MARIANNE KENNERLY
Address: Box 283
COLUMBIANA, MT.
608 1ST ST SOUTH
LIVINGSTON, MT 59041

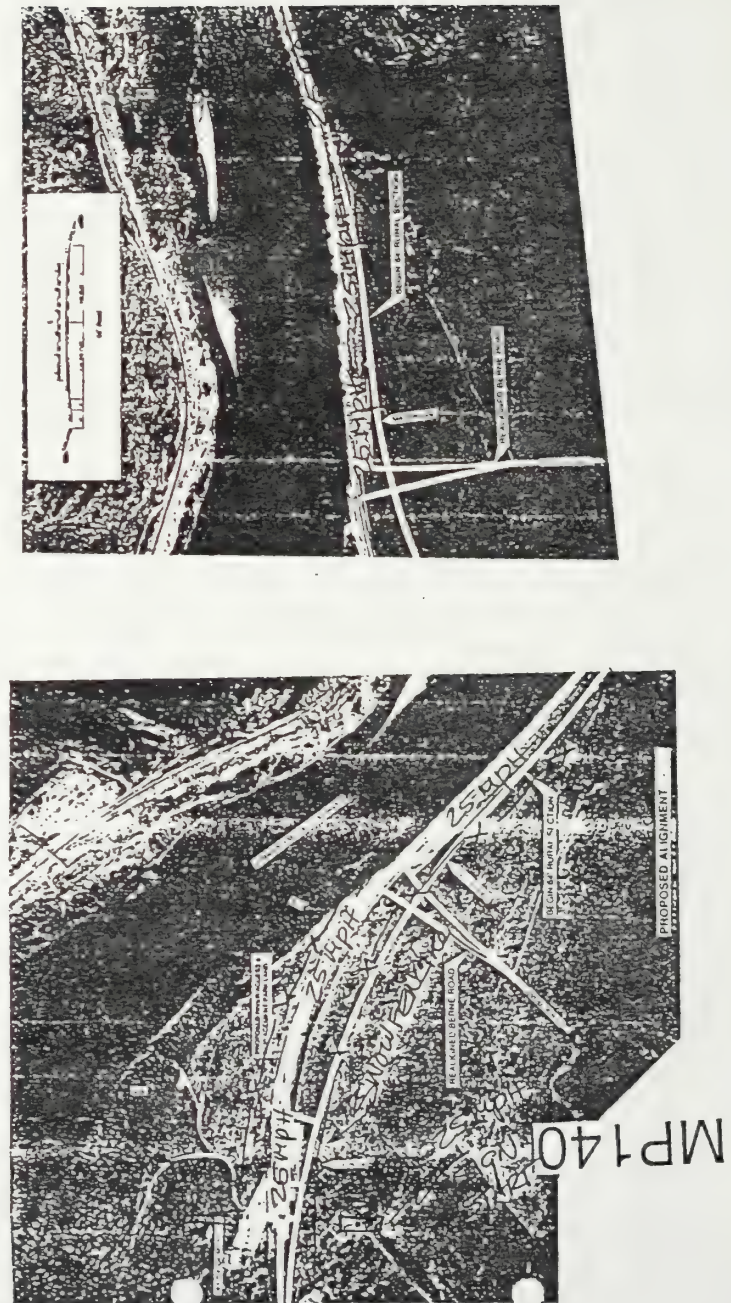
RESPONSE TO COMMENTS ON DRAFT EIS Marianne Kennerly (12/92)

1. RESPONSE: Drifting commonly occurs when the elevation of the road is at or below the elevation of roadside areas and when ditches adjacent to the road are shallow and do not effectively collect snow. The placement of snowfences throughout the corridor may help remedy localized drifting problems. However, changing the elevation of the road, providing wider shoulders, and designing roadside areas that better collect snow may provide a permanent and more effective means of addressing the cause of hazardous winter time road conditions.
2. RESPONSE: It is doubtful that this measure would be effective in reducing travel speeds in the area.
3. RESPONSE: US 2 has long been designated as a principal arterial roadway with a primary function of providing for the movement of people and goods between urban areas of the country. The route has recently been identified as a part of the newly designated National Highway System created under the provisions of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The proposed improvements to US 2 recognize and address the route's primary function.

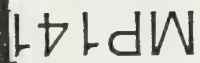
The development of an alternate route to the north of this corridor could not be done without creating its own set of significant impacts on the environment.

This was included as an attachment to Marianne Kennerly's 12/92 comment.

PROJECT: COAL LEBANON - HUNTSVILLE - CHATTANOOGA
F & E 100
COAL LEBANON - HUNTSVILLE - CHATTANOOGA
F & E 100



VI-259



MASTER FILE COPY

VI-260

BADROCK CANYON SCENIC CORRIDOR
FLATHEAD RIVER
GATEWAY TO GLACIER NAT'L PARK

My main concern about changing the highway 2 Badrock canyon is the spring. A lot of people depend on the spring as there main water source. One option would save well it would be lower the speed limit to 45 mph & had a bike path. But please consider the effects to the removal of the spring would have on local people & travelers. Thank, Steve & Theresa Kuhl ^{9/13/12} ₂₀₁₂

JAN 07 1993

ROBERT PECCIA
ASSOCIATES

Date Recd. Precons.		MAIL ROUTE	
Initial	Attach	Info	Act
			30 Preconst Eng
			30 Assistant
			30 Office Mgr
			32 Road Design
			33 Envoyment
			34 Hydraulics
			35 Survey & Mapping
			36 Training
			39 Consulting

Date Recd.	Preconst.	MAIL ROUTE	
☒	☒	30 Preconst Engr	
☒	☒	30 Assistant	
☒	☒	30 Office Mgr	
☒	☒	32 Road Design	
☒	☒	33 Environmental	
☒	☒	36 Hydrology	
☒	☒	35 Survey & Mapping	
☒	☒	36 Traffic	
☒	☒	39 Consultant	
☒	☒	<i>Dodge</i>	
☒	☒	<i>Kearney</i>	
☒	☒	<i>At the Year</i>	
☒	☒	<i>Fine</i>	

Fitwa
Legal
RPA
L. Brayda

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

RESPONSE TO COMMENTS ON DRAFT EIS
Larry Leimkuehler (12/92)

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Larry Leimkuehler
Address: 6611 1/2 NW. Shawnee Blvd

COMMENTS RECEIVED

Wants Road - Badly Abused -
THE SAFETY CONCERNS ALONE WARRANT
THE PROJECT - WE OWN THE PROPERTY AT
THE CORNER OF HWY 2 & HWY 206 AND WE
WATCH MANY AMBULANCES AND SHERIFFS
SPREADING TOWARDS HUNGRY HORSE EVERY
DAY. - ALSO - THE INTERSECTION AT HWY 2
& HWY 206 IS DANGEROUS AS IT IS NOW.
WE HAVE WITNESSED MANY ACCIDENTS AND
HELPED INJURED PEOPLE UNTIL THE AUTHORITIES
GO T THERE. THE PROJECT ALSO ADDRESSES
AND FIXES THAT PROBLEM.

JANUARY 1993
Larry Leimkuehler

1.

RESPONSES: The intersection of US 2 and Highway 206 has been proposed for reconstruction. An engineering study will be performed during the final design of the project to determine the signalization and pedestrian crossing needs for this intersection.

RESPONSE TO COMMENTS ON DRAFT EIS
Stephen R. Loane (12/24/92)

MASTER
FILE
COPY

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Stephen R. Loane ^{PO M}
12/24/92
Address: 437 2nd Ave E #13 ^{Kalispell}
Kalispell, Montana 59901

COMMENTS RECEIVED:

As a resident of the Flathead Valley and a frequent user of Highway 2, for both business and recreation, I would like to comment on the reconstruction of Highway 2 through Badrock Canyon.

First, work should be done immediately to improve the shoulders of this road to allow for more room for pulling off as well as for bicyclists who use this road heavily during the summer season.

Secondly I do not support the destruction of Berne Park and as well do not support the construction of a replacement park.

In addition I feel it is unsafe to build an intersection on the hill and curve where presently Berne Road enters Highway 2

1. RESPONSE: Your concerns for additional capacity and bicyclist safety will be incorporated into the design of the proposed action.

2. RESPONSE: The proposed action would excavate the western cliff at Berne Memorial Park and affect recreational uses at the park. The eastern cliff and much of the natural area above the fountain and spring would not be directly affected by the proposed construction.

The proposed new intersection of Berne Road and US 2 would not be located on a hill and curve as presently exists in the area. The proposed vertical alignment of this intersection would construct the new highway, Berne Road, and the approach to the replacement parkland site at an elevation higher than that of the existing road. This will ensure that oncoming traffic is visible for motorists on the approaches to the intersection and on US 2.

COMMENTS (CONTINUED):

The location of this intersection is already dangerous and the road should be relocated to safer access to the highway.

I would like to express my comment that perch trees for eagles along the riverbank should not be destroyed at all.

Why the Highway dept would want to build a highway in an existing floodplain is beyond me. I support the construction of a two lane tunnel or elevated highway that would avoid damage to Berne Park, create lots of jobs in construction, would be a unique attraction to visitors, and would avoid construction delays to visitors and decreased revenues to business as a result during the Summer visitor season.

This area has had and will continue to have historic significance as the entrance to Flathead Valley and Glacier National Park. Lets construct a highway that is unique rather than the pave and fill mentality that is so prevalent in highway design.

3. **RESPONSE:** Measures to avoid impacting the riparian vegetation in the vicinity of Berne Memorial Park were investigated and discussed with the U.S. Fish and Wildlife Service during formal consultation activities. Unless the road is shifted completely into the park, impacts to this vegetation are unavoidable. Such an alignment is unacceptable due to the resulting impacts on the park, the extent of rock excavation, and the elimination of the spring.

4. **RESPONSE:** The existing road near Berne Memorial Park in Badrock Canyon lies below the predicted elevation of the 100-year floodplain. The new road would be constructed to a similar or slightly higher elevation than the existing highway in this area. The proposed alignment does cross part of a "floodprone" designated by the Federal Emergency Management Agency at the South Fork of the Flathead River west of Hungry Horse.

The concept of constructing a tunnel through Badrock Canyon has been investigated further for the Final EIS. Additional discussions of this design option are included in Part II: Alternatives of the Final EIS.

2. RESPONSE: Your comments are addressed in the responses to similar comments made in a letter from the Coalition for Canyon Preservation, Sharon L. Willows dated December 21, 1992 presented earlier in this part.

Specifically, see responses to comments 17, 18, and 19 in the letter referenced above.

DEIS omits Streambank Protection measures required by state law MCA 82-5-501-509, fails to disclose that known Bald Eagle perching trees for major spawning areas are scheduled for removal, proposes to eliminate a major Bald Eagle foraging/perching area at Canyon's west entrance, fails to disclose the Canyon's primary Bald Eagle concentration site; miles 140.2-140.5 at the west entrance alongside US 2, and fails to disclose Bald Eagle Expert's scientific opinion ("avoid further habitat destruction"; McClelland 5/7/91) as required by NEPA. The Canyon is one of the few locations in your state where no one is to view Bald Eagles "enjoying the view" as perching adjacent the highway entry drive by - an "economic worth" ignored in cost/benefit analysis.

b) the proposed "Replacement Park" located outside west Canyon in a timbered, overgrazed - impacted field next to the houses of Mygating sells for a dime an acre, recreational intersection with US 2 / Boone Road located on a hill/canyon, adjacent commercial development and a steep bank. I request that a section of Billie Boone's original homestead be acquired east of Boone Park where there is high river access and shale scenic riverbank areas between Boone Park and South Fork. Bridge would be better alternative location for the "Replacement Park" (Proposedly NEPA and Section 4(f) DOT call for consideration of reasonable and/or "feasible and prudent" alternatives in early planning.

c) the DEIS ignores concurrent BPA proposed to be built powerlines over the Canyon to Hungry Horse Dam, a

(next page, please)

Specifically, see response to comment 27a in the letter referenced above.

Specifically, see response to comment 27b in the letter referenced above.

Specifically, see response to comment 4 in the letter referenced above.

3

isolation of the NEPA. In addition to the Federal Highway program, there is other major Federal action in this project corridor by the Bonneville Power Administration (BPA) (50 C.F.R. 101.10). BPA could pool funds to build a tunnel for highway traffic and the BPA power lines - an alternative not yet considered. A 1/2 mile tunnel for 2 lanes - power lines should be considered in the EIS process. Then the existing Bonne Memorial Park site - a drive could be saved as a public park with a dense woodland. Tunnel construction would remove the visual intrusion of BPA power lines, would save historic Bonne Park / flood plain, and would create jobs for the local economy.

3) I request consideration of criblock, state-of-the-art in environmental design. Other Federal highway construction has used state-of-the-art in river construction. Criblock technology was used in the 1950s in the Kentucky area / Glacis Park to build a retaining wall into the river. The EIS focused on the use of riprap and did not consider criblock technology that is floodplain approved.

I am, asking the preservation and national use of Badrock Canyon.

Robert L. MacLennan

7011 Cornscent Ave

Chey Chase, MD 20815

I would request more private land be acquired under the Federal River Enhancement Program. The private land entrance to the Canyon is in the EIS (111-21, #1) and that property be acquired for visual and safety reasons (the Bonne River intersection should be a 1/2 mile, please).

3. RESPONSE: Your comments are addressed in the responses to similar comments made in a letter from the Coalition for Canyon Preservation, Sharon L. Willows dated December 21, 1992 presented earlier in this part.

Specifically, see response to comment 4 in the letter referenced above.

Specifically, see responses to comments 13 and 23b in the letter referenced above.

Two large parcels west of Badrock Canyon have already been acquired.

relocated away from the hill (curve). Without further acquisition, billboards and development can extend right up to the canyon entrance, obstructing main views of the river.

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Kathie Moran
Address: 930 Sevilla Lane
Corum, MT

COMMENTS RECEIVED:

Major concern that fountain remain as is with
access to it preserved

VI-268

RESPONSE TO COMMENTS ON DRAFT EIS
Kathie Moran (12/92)

1. RESPONSE: The preferred alternative would not affect the fountain at Berne Memorial Park. Changes in the access and parking at the fountain are necessary for safety reasons and because the space remaining in the existing turnout would not be sufficient after constructing the new road to provide well designed parking areas and internal circulation.

DESIGN/LOCATION PUBLIC HEARING
COLUMBIA HEIGHTS - HUNGRY HORSE EIS
DECEMBER 10, 1992

RESPONSE TO COMMENTS ON DRAFT EIS
Bruce Opalka (12/92)

The following comments were made to agency representatives at the public hearing on the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. These comments were made by:

Name: Bruce Opalka
Address: 7703 Highway 2 E
Columbia Falls,

COMMENTS RECEIVED:

Supports Alt 1 (4 lane w/ median turn lane.)

1

1. RESPONSE: Alternative 1 is the preferred design for this project.

Public Hearing Comment

Columbia Heights - Hungry Horse EIS
Project F1-2(39)138
December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

I attended the public meeting
on Dec 10th with the intent to
make a comment on my views to be
sure that they got into the record.
I felt discouraged from giving
public comment and managed to have
one on one exchange with a rep-
resentative from the Hwy Dept.
After asking about "Benevolent"
I was told that after Govt of Bitter
Lake would not just the same
as it does now with public
view just as large as it is now.
But they they wanted to damage
the Bitter Lake valley off at that
Cargones pit along the Rd. very
Benevolent was not mentioned. At
that pt. I understood what and is 2
a point that people are. It's -
Chicago to use!
The more I have thought about
this project, the more I realized

that alt (1) is not a good option
in the area between Bad Luck Canyon
along the river across the proposed
new bridge. A 4-lane might be
suitable before or after this area
along the project but not in the
Cargones
Alternative (4) would be much
more desirable and it would eliminate
a lot of the inherent design problems
with a 4-lane around that narrow
corner. I am not familiar with
the design problems in "Bitter Lake"
a 4-lane down to a 2, but I
imagine it could be done and
would be easier than dealing with
Benevolent & riparian.
Lower the speed limit on
this see: people don't need to
speed along at 60 mph from here
on.

This page can be left at the meeting or can be folded and
mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59820

We would appreciate receiving your comments by December
20, 1992.

Name: _____
Address: _____

RESPONSE TO COMMENTS ON DRAFT EIS Lee Proctor (12/92)

1. **RESPONSE:** It is regrettable that inconsistent or inaccurate information about the impacts of the proposed reconstruction in the vicinity of Beme Memorial Park was provided to you during the "one-on-one" comment opportunities at the public hearing.

The engineering presentation and the brochure summarizing the Draft EIS made available to the public upon entering the meeting room correctly disclosed the impacts on the Beme Memorial Park area. The brochure contains a drawing specifically designed to convey this information to the public. The drawing clearly identifies the cliff area where excavation is proposed, the location of existing features at the turnout, the area where fill in the Flathead River is proposed, and the riparian vegetation affected by the road reconstruction.
2. **RESPONSE:** Changes in the access and parking at Beme Memorial Park are necessary for safety reasons and because the space remaining in the existing turnout would not be sufficient after constructing the new road to provide well designed parking areas and internal circulation.
3. **RESPONSE:** Engineering calculations have shown that two-lane designs, even those with special features like slow vehicle turnouts, alternating passing lanes, and short intervening sections of four-lane road, will not provide an acceptable level of operation based on the increases of traffic that have and are expected to continue to occur in the foreseeable future.

The Draft EIS evaluated the environmental impacts of constructing both two-lane and four-lane alternatives within the project corridor. As the Draft EIS clearly indicates on numerous occasions, the impacts of building a 44-foot-wide two-lane alternative in Badrock Canyon would be similar to those of building a 64-foot-wide four-lane road through the area. Assuming that all terrain considerations are the same, preliminary designs show that the width of the zone disturbed for the construction of a 64-foot-wide four-lane road is about 20 feet greater than that disturbed by the construction of a 44-foot-wide two-lane road. This difference translates into an area of disturbance on either side of the two-lane roadway that is only 10 feet less than that associated with the preferred alternative.

This difference is not sufficient to avoid encroaching on the Flathead River, excavating the western cliff at Beme Memorial Park, or removing riparian vegetation that serves as habitat for bald eagles. These impacts, regardless of the road design considered, are inherent consequences of a modified alignment through this area of the project.

end of this valley to the other. Especially here, where eagles
 seek and the Flathead River comes in to beautiful view meandering
 to the "Green Butte" it is almost goes to other people in an
 area like this. This is a special place, rich in history &
 cultural value. It is an ancient passage into Glacier Park County
 and into country "deared" to the Blackfoot Indians. The engineers
 must consider all these things as the design phase continues.
 It's a 4-lane option, but try to spread in the canyon over there
 we the better ways to handle, roadway close to water than to backfill
 Flathead River. It's a design phase, but would be more attractive
 and easier on the water quality. River bank protection is high priority and
 should be protected as required by State Law MCA 87-5-501-509
 Or Grubbs Type Const. which is how plan approved could be
 considered.

To conclude I don't think citizens who are concerned
 with "Bonne Point" will agree with a plan that uses dynamite
 on any of the cliffs in this ancient passageway. If another
 date is considered perhaps a place along the river between
 Bonne Point and the bridge would be a good advice
 Sincerely
 see photo

If Mailing, Fold Here And Staple Closed



Proctor
 20 June Will Dr.
 Bigfork, MT,
 59511

Public Hearings Office
 Montana Department of Transportation
 2701 Prospect Avenue
 Helena, MT 59620

4. **RESPONSE:** The posted speed limit would be 55 mph for this section of the corridor. Posted speed should not be confused with the design speed for the facility.
5. **RESPONSE:** A roadway could be constructed using piers placed in the Flathead River which would allow the location of the new road to be shifted away from Bonne Memorial Park. However, this option would also require the removal of riparian cottonwoods and other vegetation that provides habitat for bald eagles built in the river and would likely eliminate Fisherman's Rock.
6. **RESPONSE:** Several locations in the project corridor were considered as possible sites for a replacement park, including areas between the river and US 2 between Bonne Memorial Park and Hungry Horse. In general, steep terrain between the highway and river severely limited the kind of roadside development that could occur and was not favorable to the development of a river access. The selected site for the replacement park was identified by the U.S. Forest Service as an ideal site for a new river access. Joint development of this area was proposed as mitigation for impacts to parkland in the corridor and as a means of enhancing recreational opportunities for the public.

MCA 87-5-501 through 509 which outline the stream protection responsibilities of the Montana Department of Fish, Wildlife & Parks (DFWP) requires that preliminary plans and specifications for a construction project that may affect stream environments must be provided to the DFWP upon completion. The statutes also require the DFWP to review construction plans and offer recommendations or alternative plans to eliminate or minimize adverse effects. This action has not yet received design approval. Contacts about this proposed reconstruction project have already been made with DFWP's Stream Protection Coordinator.

RESPONSE TO COMMENTS ON DRAFT EIS

A. William G. Rinck and Victoria Byrd Rinck (12/14/92)

P.O. Box 130206
Coram, MT 59913-0206
December 14, 1992

Public Hearings Office
Montana Department of Transportation
2701 Prospect Ave.
Helena, MT 59620

Re: Proposed five lane highway from Columbia Heights to Hungry Horse

We are opposed to the current plan for a five lane highway from Columbia Heights to Hungry Horse.

We heartily support a new highway on this section of road. It is greatly needed. However, to build a five lane "airstrip" like the one between Columbia Heights and Columbia Falls would be an environmental tragedy. Not only would it be visually unappealing, but it would place too much asphalt in an environmentally sensitive area.

We support a five lane highway in Columbia Heights with a turning lane in the middle, but only a four lane with minimally adequate emergency parking lanes from Columbia Heights to Hungry Horse. We also would like to see every effort made to preserve the integrity of Berne Park and its historical significance. This is perhaps one of the truest "rest stops" in Montana, especially for summer travelers who stop to get a cool drink of water and feel a cool mountain breeze on a hot summer day.

A four lane will carry as many vehicles as a five lane with turning lane, but will be much more aesthetically pleasing and cost effective. Please don't let this process get bogged down for years like it did for the highway between Hungry Horse and West Glacier. Be sensitive and sensible. Listen to the people and proceed with a four lane.

Sincerely yours,

A. William G. Rinck
Victoria Byrd Rinck

A. William G. Rinck
Victoria Byrd Rinck

Date Recd.	Preconst	Info	Attach	MAIL ROUTE
				30 Preconst Engr
				30 Assistant
				30 Office Mgr
				32 Road Design
				33 Environment
				34 Hydraulics
				35 Survey & Mapping
				36 Traffic
				39 Consultant
				<i>W. G. Rinck</i>
				<i>Victoria Byrd Rinck</i>

F44WA
Road
12/14/92

1.

RESPONSE: The preferred alternative would provide a four-lane with a median/left turn lane from Columbia Heights to Berne Road where the replacement parkland and river access site is proposed. From Berne Road to Hungry Horse, a four-lane highway without a median/left turn lane has been proposed.

An undivided 64-foot wide four-lane road between Columbia Heights and Berne Road was initially considered before a four-lane road with a continuous median/left turn lane was selected as the preferred alternative. The primary reason for not choosing an undivided four-lane design was that transitions to and from road widenings for left turn lanes at Monte Vista Drive and at the replacement park area near Berne Road would consume nearly 1.3 of the 1.7 miles in this segment of the corridor.

If left turn lanes were provided at Monte Vista Drive and at the proposed replacement park/river access, two short areas of intervening undivided four-lane road (a 0.35 mile-long section between Columbia Heights and Monte Vista Drive and a 0.10 mile-long section between Monte Vista Drive and Berne Road) would exist in this part of the corridor. These brief and frequent transitions to and from areas with left turn lanes are undesirable from a safety standpoint and may be confusing to drivers. The paved surface width and the area disturbed by construction would not vary substantially from that of the preferred design for this section of the corridor.

2.

RESPONSE: The eight-foot wide shoulders proposed for the facility in the area between Columbia Heights and Hungry Horse represent the "minimum" width that would be considered for this type of roadway. This is consistent with guidance about the width of shoulders from the American Association of State Highway and Transportation Officials (AASHTO).

Considerable effort was spent to identify locations for the new road that avoided or limited impacts to Berne Memorial Park and other sensitive resources in Badrock Canyon. These efforts showed that impacts to some or all of the resources were likely and unavoidable with all alternate locations for US 2. The proposed alignment attempts to meet the projected traffic needs for the corridor and minimizes unavoidable impacts to the sensitive features of Badrock Canyon.

RESPONSE TO COMMENTS ON DRAFT EIS
Homer & Joy Steele (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

we are land holders
along Hwy 2. we
see so many
accidents & see
so many Ambulances
go by. I've had
the Highway
should be there
have all the way
with a turning
lane.
we have had
to wait over 20
min to get on
the highway from
our house. I
see that because
there is beautiful
view can still
be preserved.
we have seen
what the Canyon
Collection did
to our last section
of Highway a
Duke Coffee past
way which is
half way. especially
see the winter
Henceforth
Henceforth

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Homer & Joy Steele
Address: 150 Steele Dr.
Columbia Falls, MT
59912

RECEIVED
DEC 24 1992
ROBERT PECCIA
& ASSOCIATES

JOHN R. SWANSON
3000 Edmund Blvd.
Minneapolis, MN 55006

Dec. 18, 1912.
 Winter. Males export-nat. P. Highways
 201 Males
 111 Males 59620.

2,2,2

Please accept my following congratulatory community

Highway construction, and no passengers over profit like most.

→ progress of the relationship - natural decline in quality of the Bush not to surprise
 after 1992 - visit entrance to Obama's office / party, the party mainly
 personal.

and may also suggest the following:

- obtain an additional control group to create development

• Science Service programs are a factor in developing interest with more private funds to the acquisition.

show the unique structure of P_{abs} with the homogeneity of P_{abs} and the homogeneity of P_{abs} .

avoid dangerous interactions.

• Reduce minimum depth to 30 mph.

• protect all Black people's habitats, including people's waters.

• compare Dr. Child's replacement rate; and present initial Begun Paper

- appropriate for dignity and BPQ principles to some individuals.

- Use "cylinder method" that is described in approach.

۶۰

2. Shirley

Info	Mail Route	Attach	Initial
✓	30 Preconst Engr		
✓	30 Assistant		
	30 Office Mgr		
	31 Safety Mgmt.		
	32 Road Design		
✓	33 Environment		
	34 Hydraulics		
	35 Survey & Mapping		
	36 Traffic Eng.		
	37 Traffic Operations		
✓	39 Consultant Dsn.		
✓	J. T. Wheeler		
✓	F. H. W. A.		
✓	Legal		
	RPA		
	L. Bragley		

1. **RESPONSE:** Your comments are similar to those made by Sharon Willows of the Coalition for Canyon Preservation in her 12/21/92 letter. Please review the responses to her comments presented in an earlier part this section.

Specifically, see responses to comments 2, 3, 4, 13, 14, 17, 18, 19, 23b, 27a, and 27b in the letter referenced above for responses to the comments raised in your letter.

RESPONSE TO COMMENTS ON DRAFT EIS
Mr. and Mrs. James Swigart (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

We consider a project to have automatic traffic signals on intersection of #26 and Highway 2a.

James A. & Margaret Swigart

1. RESPONSE: An engineering study will be performed during the design phase of this project to determine signalization and pedestrian crossing needs in Columbia Heights.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: Mr. and Mrs. James A. Swigart

Address: P O Box 683 1055 Montana 206

Columbia Falls MT 59912

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

Having reviewed the documents of your report and our attending special meetings and Nov. 10th at 1:30 and 4:00 pm. We representing the City of Columbia Heights agree to move forward with this project as proposed and send an e-mail.

The pavement created by this action of the City contributed to the 40% of accident. Speed placement of these 'bars' on the north side of highway with 2 sided arrow signs are well received. We believe the same amount of road space

are moving with out having the street space setting. We changed in the highway 3 2-206 function is a must not about the design of the road of the project.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name: *Edwin H. Toren (MAYOR)*
Address: *2201 Prospect Avenue*
Columbia Falls, MT 59912

RESPONSE TO COMMENTS ON DRAFT EIS

Mayor of Columbia Falls

Edwin H. Toren (12/92)

1. **RESPONSE:** All necessary approvals must be obtained before any design activities could begin on this project. The scheduling of design and reconstruction activities associated with this project would depend primarily on the availability of funding.
2. **RESPONSE:** We also believe that the replacement park and river access will receive substantial public use because it enhances recreational opportunities in the area.
3. **RESPONSE:** Reconstructing the intersection ahead of the rest of the project has not been considered for this project since the entire corridor has capacity and safety needs that must be addressed.

RESPONSE TO COMMENTS ON DRAFT EIS Unknown (12/92)

DEC 24 1992
ROBERT PECCIA
& ASSOCIATES

MASTER FILE COPY
10-23-92

30 Preconst Eng	
30 Assistant	
30 Office Mgr	
31 Safety Mgmt	
32 Road Design	
33 Environmental	
34 Hydraulics	
35 Survey & Maping	
36 Traffic Eng	
37 Traffic Operation	
38 Consultant Des	
39 Leave	

into Act

Dear Sir:

The purpose of this communication is to address the Highway 2 expansion project through Badwater Canyon. First of all, I am unhappy with the project at the highway being expanded at all. I believe the canyon should remain basically as is. A higher road with more lanes will only accentuate certain problems that have already gotten out of hand due to increased tourism. A shuttle bus system which would take visitors to and from Glacier Pt. (and then it also) is what I would like to see employed here. A parking area could be built outside the canyon with RV camping facilities and other commercial development around Columbia Heights instead of the canyon. A shuttle service has already been started within the Park and it could easily be expanded to bring people in from the Heights.

Another thing I dislike is the plan to take out part of Burne park in order to accommodate the wider roads. I not only believe this unnecessary, but very undesirable.

- RESPONSE:** The travel demands of motorists on US 2 in and out of the corridor, the age and deteriorated condition of the facility, and traffic safety concerns provide sufficient reasons for reconstructing this section of highway. Engineering studies have shown that a four-lane highway is necessary to accommodate traffic through the foreseeable future.

The growth in traffic volumes on US 2 and other roads in the area are due to higher numbers of visitors to the region and the increasing number of residents in Flathead County. Traffic volumes on this route will continue to grow with or without this highway project.
- RESPONSE:** Mass transit was eliminated from consideration for this project because it would not meet the demands of all facility users.

The proposed action will include a park-and-ride lot near the intersection of US 2 and Highway 206. This facility will serve as an area where commuters to and from work in the Flathead Valley or locations between Hungry Horse and West Glacier can meet and arrange carpools. If commuters use the facility, the number of vehicle trips on US 2 will be reduced and energy savings will be realized.

RESPONSE TO COMMENTS ON DRAFT EIS
Robert Waltmire (12/92)

Public Hearing Comment

Columbia Heights - Hungry Horse EIS

Project F1-2(39)138

December 10, 1992

Please indicate below any comments you may have regarding the proposed reconstruction of U.S. 2 between Columbia Heights and Hungry Horse. Your comments will be addressed and incorporated into the Final EIS for this project.

Budget Now
no 10 year
Next for 10 years
the other makes you
spend more than with
blush & see to can't be
we'd all prefer to the
public be down!

1. RESPONSE: All necessary approvals must be obtained before any design activities could begin on this project. The scheduling of design and reconstruction activities associated with this project would depend primarily on the availability of funding.

Sidewalks in Columbia Heights will be included where the density of roadside development is appropriate for providing such roadside features. Columbia Heights is not an incorporated area so maintenance of sidewalks would be the responsibility of MDT.

This page can be left at the meeting or can be folded and mailed to:

Public Hearings Office
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

We would appreciate receiving your comments by December 20, 1992.

Name:

Address:

Robert Waltmire
Box 1987
CF, MT

MASTER
FILE
COPY

Director
Montana Department of Highways
Attn: Preconstruction
2701 Prospect
Helena, MT 59620

Dear Sir;

DEC 15 1992

I am writing in response to the proposed highway

reconstruction of U.S. Highway 2 through Badrock Canyon near Hungry Horse, Montana. As a raptor biologist I have observed hundreds of endangered Bald Eagles perched in the vicinity of this project area. Some time ago, I commented on this proposed construction and offered information on the perch sites along this area of the South Fork and Main stems of the Flathead River. During the autumn of 1985 I conducted systematic weekly Bald Eagle censuses in this area. To date, I have not been contacted to offer information or an opinion about this Bald Eagle habitat use area. Is this information concerning an endangered species deemed unnecessary by the Mont. Dept. of Highways?

Most recently, I observed an adult Bald Eagle perched near the project area along the South Fork on 4 December at 1030 a.m. and I observed 2 adults perched near the mouth of the Canyon on 10 November. Most of the large Cottonwood trees along this section of the River are used by Bald Eagles as perch trees, or they provide screening for other perch sites. Proper planning must carefully consider these aspects of Bald Eagle use in this important corridor. Probably hundreds of Bald Eagles migrate through this area in the autumn and spring. Maintenance of the integrity of this area for Bald Eagle habitat will require that most large cottonwood trees be left standing.

From an aesthetic point of view, I believe that the rock cliffs in this area be left undisturbed. From a safety point of view, the road should not be made 4 lane. This encourages people to drive faster, and accidents will be more severe. That shaded area of highway will still have ice on it when other areas are bare and dry. From a water quality point of view, the spring water at Berne Park is some of the best in the state. From a historic point of view, Berne Park is a significant "Memorial" park that provides travelers a nice area to access the river and contemplate the history of Badrock Canyon.

These are all important reasons for trying to fit a reconstructed road through a unique cultural, scenic, and wildlife habitat use area, rather than blasting a 4-lane super highway through. The road should be reconstructed through this area, but the trees, cliffs, spring-water, and Berne Park must be retained.

Thank you for this opportunity to comment.

Sincerely,
Rick Yates
West Glacier, Montana

Date Recd.	Info	Act
12-15-92	MAIL ROUTE	
	30 Preconst Engr	
	30 Assistant	
	30 Office Mgr	
	32 Road Design	
	33 Environment	
	34 Hydraulics	
	35 Survey & Mapping	
	36 Traffic	
	39 Consultant	
	Montana Dept. of Highways	
	Public Affairs	
	File	
	F. H. W. A.	
	Lead	
	RPA	
	L. Bragda	

RESPONSE TO COMMENTS ON DRAFT EIS

Rick Yates (12/11/92)

- RESPONSE:** Other biologists were contacted to determine the present use of the area by bald eagles, including Gary Gregory of Glacier National Park, B. Riley McClelland, Rob Hazelwood and Larry Lockard of the U.S. Fish and Wildlife Service, and Dennis Flath of Montana Department of Fish, Wildlife & Parks. Information from these sources was sufficient to identify habitat and establish the current use of the area by the species.
 - RESPONSE:** The U.S. Fish and Wildlife Service recommended conservation measures for bald eagles and their habitat that should be incorporated into this project in the agency's Biological Opinion contained in the Draft EIS. These recommendations will be incorporated into the project.
 - RESPONSE:** A preliminary design following an alignment to avoid the cliffs at Berne Memorial Park was investigated for the EIS. However, since the road must be shifted toward the river to avoid the cliffs, impacts would occur to the Flathead River and riparian areas that provide habitat for bald eagles. The extent of the impacts caused by an alignment to avoid the cliffs would be greater than those associated with the preferred alignment.
- Engineering studies have shown that a four-lane highway is necessary to accommodate traffic through the foreseeable future. The reconstruction of this corridor will provide operational as well as safety benefits.
- There are no plans to eliminate the spring or access to this water source.
- The significance of the "Memorial" park was reviewed according to criteria contained in National Register Bulletins #15 and #22. Based on this information, the property were not found to be significant or eligible for the National Register.
- Even if the properties were determined to be significant on the basis of its commemorative value, no additional protection beyond Section 4(f) of the Department of Transportation Act would have been afforded to the property. Berne Memorial Park has been identified from the beginning of this project as a 4(f) property because of its recreational use by the public.
- Cultural resource inventories completed for the project did not find any properties (including several cultural sites investigated in Badrock Canyon) that were eligible for the National Register. The Montana State Historic Preservation Officer concurred with these findings.

Part VII: List of Preparers

The Montana Department of Transportation (MDT) and the Federal Highway Administration (FHWA) are the State and Federal agencies responsible for preparing this EIS. Due to the scope of the project and the wish to expedite the study, MDT retained consultants to provide preliminary design services and other technical assistance. The consultant was responsible for preparing the EIS and Section 4(f) Evaluation and coordinating the document with various agencies with interests in the project. MDT and FHWA is responsible for developing all conclusions and recommendations contained in the EIS.

MDT provided estimates for construction and utility relocations, existing traffic data, measurements and predictions of noise levels, preliminary right-of-way and design information, and all previous work on the proposed action. Both MDT and FHWA provided technical expertise and policy guidance during the development of the EIS. The primary representatives of the agencies who were responsible for providing technical support and review comments on this EIS are listed below:

MONTANA DEPARTMENT OF TRANSPORTATION

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The primary consultant for this project is Robert Peccia & Associates, Inc. based in Helena, Montana. The firm provided much of the transportation, civil, and environmental engineering analysis completed for the EIS. Robert Peccia & Associates used several subcontractors to provide technical expertise on various portions of the EIS. These subcontractors included:

- Lisa Bay Consulting, Helena, MT
- Historical Research Associates, Inc., Missoula, MT
- OEA Research, Helena, MT
- Smith Surveying Company, Kalispell, MT

The qualifications of the persons contributing to the information and analyses contained in the EIS are as follows:

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Shawn L. Foutch, Civil Engineer - Mr. Foutch earned a Bachelor of Science degree in Civil Engineering from Iowa State University and is a **registered Professional Engineer in Montana**. Mr. Foutch has **six years** experience as a highway design engineer with Robert Peccia & Associates. He has been extensively involved with designs for rural highway reconstruction projects and urban street design since joining the firm. Mr. Foutch was responsible for developing right-of-way and construction cost estimates, pavement maintenance and rehabilitation costs, and reviewing preliminary design work for the various alternatives evaluated in the EIS.

Jeffrey L. Larson, Civil Engineer - Mr. Larson has a Bachelor of Science and a Master of Science degrees from Montana State University. Mr. Larson is a **registered Professional Engineer in Montana**. He has **five years** experience with Robert Peccia & Associates as a highway design engineer. Mr. Larson was responsible for preparing the preliminary designs and computer drawings of each design alternative evaluated in the EIS. He was also extensively involved in the level of service and hydraulic analyses completed for the EIS.

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Daniel M. Norderud, Transportation Planner - Mr. Norderud earned a Bachelor of Science degree in Earth Sciences, Planning Option from Montana State University. Mr. Norderud has **15 years** of experience in preparing comprehensive land use, transportation and traffic safety, and environmental planning documents for projects in and outside Montana. He served as a primary contributor for three previous **EISs for MDT highway reconstruction projects** and has prepared environmental assessments for MDT and the Aeronautics Division of the Montana Department of Commerce. Mr. Norderud was the principal author of this EIS and the Section 4(f) Evaluation.

Nicholas L. Ladas, Graphic Designer - Mr. Ladas has a Bachelor of Fine Arts degree in Graphic Design and Painting from Montana State University. He has **12 years** of experience as a graphic designer with the firm. Mr. Ladas was responsible for the design and layout of report figures and text included in the EIS.

Kathleen J. Mullen, Editor and Word Processor - Ms. Mullen has a Bachelor of Arts degree in Elementary Education from Carroll College. She has **6 years** of experience with Robert Peccia & Associates and is typically responsible for word processing, editing, and formatting documents with desktop publishing software. Ms. Mullen had similar responsibilities during the preparation of this EIS.

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James R. Boyer, Social Economist - Mr. Boyer earned a Bachelor of Arts degree in Marketing from Western Michigan University and a Master of Science degree in Urban Planning from the University of Arizona. He has **nearly 20 years** of experience as a land use planner and economist in Montana. Mr. Boyer assisted Ms. Bay in developing economic and demographic forecasts for the project area.

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T. Weber Greiser, Senior Archeologist - Mr. Greiser holds Bachelors and Masters degrees in Anthropology from the University of New Mexico and has a Ph. D. in Anthropology from the University of Colorado. Mr. Greiser has served as the Secretary-Treasurer of Historical Research Associates since 1982 and is one of the principal investigators for the firm. He has **nearly 20 years** of experience as an archeologist and has worked throughout the western U.S. as a project manager for numerous cultural resource surveys. His responsibilities for this project were similar.

William Hay, Archeologist - Mr. Hay has a Bachelor of Arts degree in Anthropology from the University of Montana. He has **11 years** of experience as an archeologist and cartographer for HRA. Mr. Hay has investigated cultural resources for numerous MDT projects and participated in projects throughout the western U.S. Mr. Hay was the principal investigator and author of the cultural resources survey prepared for the EIS.

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Montana and has **20 years** of professional experience as a consulting biologist. Mr. Gilbert is typically responsible for performing and/or supervising all wildlife field work conducted by OEA. He was responsible for the wildlife investigations and the biological assessment prepared for the EIS.

Pamala Hackley, Soil Scientist, Vegetation Specialist - Ms. Hackley has a Bachelor of Arts degree in Biology from Stanford University and a Master of Science degree in Forestry-Soils from the University of Montana. She has **14 years** of experience in soils classification, mapping, impact assessment, and landform analysis in Montana and the region. **Ms. Hackley was responsible for preparing soils and vegetation investigations, and for the wetlands evaluation and habitat mapping included in the EIS.**

SMITH SURVEYING COMPANY

Smith Surveying Company - Company personnel performed a variety of surveys in the project corridor during 1989 and 1990. The surveys included cross-sections at 100-foot intervals along the existing highway; topographical survey to locate buildings and other features; section corner ties; small tract ties to define property boundaries; and hydraulics surveys in Badrock Canyon. The survey data was used in preliminary design work and to estimate the costs and environmental effects of the proposed action.

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Representatives of three cooperating agencies, the U.S. Forest Service, the Army Corps of Engineers, and the National Park Service, Glacier National Park provided valuable assistance and reviews of the EIS. They include:

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